THE HOME NURSE

E. B. LOWRY, M.D.

THE HOME NURSE

BY THE SAME AUTHOR

HERSELF

TALKS WITH WOMEN CONCERNING THEMSELVES
$1.00

HIMSELF

TALKS WITH MEN CONCERNING THEMSELVES
$1.00

CONFIDENCES

TALKS WITH A YOUNG GIRL CONCERNING HERSELF. 50 CTS.

TRUTHS

TALKS WITH A BOY CONCERNING HIMSELF
50 CTS.

FALSE MODESTY. 50 CTS.

THE HOME NURSE

BY

E. B. LOWRY, M.D.
Author of "Herself," "Confidences," "Truths," etc.

CHICAGO
FORBES AND COMPANY
1914

PREFACE

INTO every home, at some time, there comes illness and the necessity for intelligent care of the sick. Some patients, more fortunate than others, are taken to a hospital where they are sure of skilled nursing. Others are enabled to employ a trained nurse in their homes. But a large percentage of the sick must be cared for in their own homes and the nursing devolves upon some member of the family. This home nurse may be very intelligent, willing and conscientious but, as in any other new work, she realizes her inability always to do things in the best possible manner.

The busy family physician, in making his daily call, willingly would instruct her as to the duties of a nurse but the many demands upon his time make this impossible. To a large measure the outcome of a case depends upon the nursing; the physician may be entirely competent and prescribe the very best treatment possible, but how often he leaves a home with grave doubts in his mind because he feels certain his orders will not be carried

out correctly! It is very discouraging for a physician to use his time and energy in trying to save a life and then feel that during his absence from the case something will be neglected that will undo all that he has been able to accomplish.

The home nurse cannot always be blamed for this state of affairs, for "she hath done what she could," but on account of lack of training along these lines, she is unable to realize the importance of following directions exactly or she misunderstands the directions and does the wrong thing.

A nurse seldom is required to assume the responsibility of a case. That is the physician's part. The nurse has been called a doctor's right hand, very valuable and an absolute necessity at times and yet valueless if it goes contrary to the wishes of the director. A doctor is employed because the patient or family have confidence in his ability to treat the case. This being true, it is only fair that all his directions should be carried out exactly as given. If the patient does not have absolute confidence in the doctor, then it is time to dismiss him and employ someone else, but as long as a doctor is treating a case, his directions should be followed to the exclusion of all others.

The doctor makes his diagnosis and prescribes the treatment and no matter what the attendants think, they must not interfere with the faithful execution of his orders.

It is to help the home nurses that this book has been prepared. It also is hoped that physicians will find it a valuable aid inasmuch as it will explain to the untrained nurse how to aid them by carrying out their directions intelligently.

CONTENTS

PART I.—GENERAL NURSING

PART II.—NURSING IN SPECIAL DISEASES

PART III.—MINOR DISORDERS, ACCIDENTS, HOME REMEDIES

THE HOME NURSE

PART I GENERAL NURSING

CHAPTER I

THE HOME NURSE

"WHAT is everybody's business is nobody's business." This is especially true in cases of sickness in the homes where the nursing, or care of the patient, devolves upon the members of the family. In such cases, where several try to carry out the physician's orders, it often happens that some orders are neglected, each member of the family believing that these things had been attended to by some other person.

Whenever there is illness in a home and it does not seem advisable, for various reasons, to employ a trained nurse, one person should be selected to take charge of the patient and this person should receive all orders from the physician and be responsible for their fulfillment.

The chief requirements for one who is to take the part of the nurse in a home are neatness, quietness and an ability to carry out the physician's orders exactly.

In her personal appearance a nurse must be scrupulously clean and neat. Her hair should be tastefully dressed and free from ornaments. Her hands should be clean and well cared for. A roughened hand is very annoying to the patient. The nails should receive especial attention and should be filed rather short. A nurse should not wear any rings, for they are liable to catch on the clothing or the patient's hair and be annoying. The nurse's dress should be of some washable, cotton material, soft enough not to rustle when she walks. White aprons give a neat and tidy appearance. Her shoes should be light, permitting her to step noiselessly about the room. Rubber heels are desirable.

During the twenty-four hours some provision should be made for sufficient sleep and outdoor exercise for the nurse. She needs seven or eight hours of sleep and one or two hours for exercise, besides time in which to dress, attend to her toilet requirements and eat her meals without hurrying. A nurse who does not have sufficient time for sleep and rest

becomes not only physically tired, but mentally so exhausted that she is incapable of giving proper care to the patient or of observing symptoms. For the sake of the patient, be sure that the nurse is not overworked. She can be relieved of her duties by some other person. At such times that she is away from her patient, written orders for the substitute should be left and she should make sure that the one left in charge understands the directions.

The nurse always should speak in a low, well-modulated voice that can be understood by the patient without any effort. One never should speak in whispers or in a low tone to a third person so the patient can hear the voices but cannot understand what is being said. A sick person is very sensitive and whispering is annoying. The nature of the illness should not be discussed and nothing but the kindest things said before a patient. A person who is very ill is incapable of carrying on, or even listening to, a sustained conversation. In such a case, there should be as little conversation as possible in the room. As the patient becomes convalescent, he requires to be entertained. A nurse who can read or tell light, happy stories in an entertaining manner is invaluable at such times. Gossip or

tales of sadness or unkindness should not be retailed to any patient. A patient who is kept in an optimistic frame of mind has a better chance for recovery than one who is melancholy. The patient should be made to feel that the nurse is interested in his recovery and that everything to hasten it is being done.

When the physician makes his daily visit, it is considered a mark of respect for the nurse to arise when he enters the room and remain standing unless asked to be seated; she should hand him her written report (which will be explained later), answer any questions he may ask and then quietly leave the room, and wait outside until he leaves the sick-room.

This will give the patient an opportunity to talk privately with the physician about anything he wishes. Often a patient does not talk freely with the physician nor tell him essential things, because of an inability to be frank before a third party even if that person is an intimate relative. Then, too, the nurse is thus given an opportunity of speaking with the doctor about anything she wishes to know, and of reporting to him anything she does not deem it desirable to say before the patient.

Of course when a mother is caring for a child who is too young to answer questions, she should remain sitting by the patient.

CHAPTER II

THE SICK ROOM

THE choice of the sick room is very important. A patient in a dark, poorly ventilated one has a harder battle to fight than one in a properly selected room. It should be on the sunny side of the house, well ventilated and as far as possible from the noise of the streets and the odors of the kitchen.

In arranging the room, all unnecessary furniture should be removed, especially bric-a-brac, which forms a repository for stray germs. The floor is preferably bare, although small rugs or strips of carpet should be laid down to deaden the noise of footsteps. Place the bed in a position so that the direct light from a window does not fall on the patient's eyes. Provide an artificial light that also is shaded from the patient's eyes, but which can be turned on brightly in case of necessity. Sudden changes are liable to arise in the night, when a good light is an absolute necessity. In cases of diseases of the brain or eyes the physician probably will wish

to keep the room darkened. Care should be taken that the curtain or shade does not flap in the wind and so annoy the patient.

The temperature of the room should be kept as even as possible. Remember that the temperature usually falls at night during the time when the vital powers of the patient are at the lowest, that is, in the early morning hours. Because of this, care should be taken to provide extra covers at that time. Unless otherwise directed, it is safe to keep the temperature of the room for a fever patient at about 60° F. For patients afflicted with other diseases the thermometer should register about 68° F.

The temperature of the room must be regulated by turning the artificial heat off or on, not by closing windows that are needed for ventilation. In some cases dry heat from a furnace is very irritating. This may be remedied by keeping a kettle of boiling water in the room. To keep the room cool in hot weather is not always a very easy matter. Keeping the blinds down and the windows closed on the sunny side during the day will produce very good results. A wet sheet hung in the window or where a breeze will blow over it often is a material aid in cooling the room. If an electric fan is used, care

must be taken that the direct current does not strike the patient.

Good ventilation is necessary in every disease. Formerly patients were confined in dark rooms with all doors and windows closed. It is surprising how many recovered under these conditions. Sunshine and fresh air are Nature's two most potent remedies. In cold weather it may not be desirable to have the windows open in the patient's room, but in this case windows in an adjoining room should be lowered and the door between the rooms left open. Usually, however, the room can be ventilated directly. Raise the window about six inches from the bottom, fit a board tightly under it. Fresh air will then come in between the two sashes and danger of a direct draft on the patient will be avoided. Every morning the room should be ventilated thoroughly by throwing open all windows and doors for a few minutes. Before doing this, the patient should be covered with one or two extra blankets and a light covering thrown over the face. Do not remove this extra covering at once when you close the windows but remove it gradually as the air in the room regains its normal warmth.

It is better not to keep plants or flowers in the

room, but if the patient desires a few during the day they always should be removed at night. Keep all medicine bottles, empty glasses, etc., out of sight and if possible out of the room.

All excreta, soiled linen and dressings should be removed from the room at once as they pollute the air. In infectious or contagious diseases the urine, feces (bowel movement) and vomited matter should be disinfected with chloride of lime or with carbolic acid. Care should be taken not to empty the excreta near a well or any place where the water supply will become contaminated. If no sewerage system is convenient, the feces should be buried or burned after being disinfected. If a patient expectorates he may be supplied with small pieces of cotton to receive the sputum. A paper cone pinned to the side of the mattress, within easy reach of the patient's hand, makes a convenient receptacle for these pieces. A new cone should be provided once or twice a day.

The sweeping in a sick room must be done slowly, keeping the broom always near the floor so the dust will not fly. Before commencing to sweep, the broom should be dampened, or moist sawdust or tea leaves strewn over the floor. The dusting

should be done with a damp cloth, never with a feather duster. If there is a fire in the room the coal should be brought in wrapped in paper and laid gently on the fire. The ashes also should be removed noiselessly. The patient's room is the patient's home for the time being, therefore everything possible should be done to keep it clean, airy and comfortable.

CHAPTER III

BED MAKING

ONE of the most essential items in the care of a patient is proper preparation and care of the bed. One of the first requirements of a good nurse is her ability in this line, and yet how seldom do we find anyone except a trained nurse who understands this matter so essential to the patient's comfort!

First, the mattress must be protected, both for the sake of cleanliness and for economy. Unless the patient has involuntary urinations or bowel movements, a soft pad will be sufficient. Over this the lower sheet should be drawn smoothly and *pinned* to the mattress at the corners. The upper sheet and blanket come next. These should be well tucked in at the foot of the bed, but not so tightly as to be uncomfortable for the patient. The upper edge of the blanket must be protected by turning the end of the sheet back over it. A patient often is uncomfortable with the usual heavy white counterpane over him, although he may fail to find the

source of his discomfort. Counterpanes interfere with the circulation of the air and although they add to the looks of a bed, the patient's comfort must be the first consideration. A light weight, loosely woven spread may be used.

When the patient is very ill, or if the nature of the illness is such that the lower sheet becomes soiled, a draw sheet should be used. After the lower sheet has been fastened in place, a sheet of rubber cloth, about a yard square, is placed across the middle of the bed, allowing the upper edge to meet the pillow. This is pinned in place by one safety pin at each corner. Over this is placed a sheet that has been folded crosswise. The hems should come at the lower end so as not to form a ridge under the patient's back. The sheet should be securely tucked in at the sides.

The changing of the linen should be managed with as little fatigue and discomfort to the patient as possible. This can be done easily by one person, unless the patient is very ill or helpless. Only the upper sheet or blanket is left over the patient, the lower sheet is loosened at top, bottom and sides; one side then is folded along its entire length, lengthwise as flatly as possible, close up to the pa-

tient. The fresh sheet should be folded lengthwise, alternately backward and forward, for half its width, and placed on the side of the bed from which the soiled one has been removed. The nurse then goes to the other side of the bed, turns the patient carefully on his side facing the nurse. She tucks the folded sheet close up to him, smoothing the clean sheet carefully. She then turns the patient over onto his other side. In so doing he passes the folded sheets, so that they are now at his back and he is lying on the clean sheet. The soiled sheet now can be removed and the other half of the clean one smoothed out and the sides and ends tucked in. The upper sheet and blanket are replaced as before. In changing the upper sheet the clean one is spread over the top of the bed and held in place while the blanket is removed from top downwards. This is put over the clean sheet and both held in place while the soiled sheet and other clothing are removed. In this way exposure and chilling of the patient is avoided.

When the patient cannot be turned on his side the sheet must be changed from top to bottom. The soiled sheet being loosened at the top and pushed well down under the pillow, the clean sheet is

CHANGING THE DRAW-SHEET

started at the top and pushed down under the pillow also. In changing the sheet in this manner two persons are required, one standing at each side of the bed and working the sheets down slowly and carefully.

In changing the pillows, the patient's head must be raised by placing one arm under it and raising it gently, then the pillows are arranged or removed with the other hand. In arranging the pillows the patient's individual taste must be consulted; usually two are required for comfort, one being pulled well down under the patient's shoulders, while the other supports the head. The pillows never should be shaken on the bed. The upper one should be removed and shaken away from the bed, replaced, and the other one removed, shaken and replaced.

In making a bed, care must be taken that a seam of the sheet does not come under the patient's back. Several times a day the under sheet must be smoothed free from wrinkles. All bed linen should be warmed and aired thoroughly before commencing the making of the bed, and everything should be placed in a convenient place so there will be no delay during the process.

In special cases it is necessary to vary slightly

the manner of making the bed. In some operative cases, the bed must be arranged so one portion can be changed without disturbing the remainder. In confinement cases, the bed should be made up with a draw sheet, and then a second rubber sheet and draw sheet should be placed over the first one. By this arrangement, the second one can be withdrawn after labor, leaving a clean bed well protected with the draw sheet. If there is no provision made for a rubber sheet, about twenty thicknesses of newspapers may be substituted very well. Many people think an old blanket or comforter can be used but these should not be allowed if they possibly can be avoided, for invariably they are full of germs.

In cases of fractured limbs one person must lift the injured limb gently while another changes the sheet under it. In these cases a wide board (table leaf or ironing board) should be placed across the bed under the mattress to prevent it from sagging.

Water beds and air beds are used in cases of prolonged illness to prevent bed sores. Care should be taken to prevent damaging by sticking pins into them.

The old-fashioned feather bed has no place in a sick room. Where one is in use, the nurse must

use a great deal of ingenuity to be able to dispense with it, for in this age any one who uses a feather bed is liable to be very "set" in her ways.

CHAPTER IV

OBSERVATION OF SYMPTOMS

In a large percentage of the cases of illness the physician sees his patient only once in twenty-four hours. It may happen that at the time of his visit the patient's condition is entirely different from what it is the greater part of the day. He may be feeling unusually well at that particular time while he may be in severe pain at other times of the day. We see, then, that it is impossible for a physician to judge a case entirely by the patient's condition at the time of his visit. He must depend, in a large measure, upon the report given him by the patient or by the nurse who has been with the patient continually. It then becomes necessary for the nurse to observe all symptoms closely so as to be able to give the physician an accurate report.

It is important to remember that the physician wants facts and not opinions. Never make a statement unless you are certain it is true. For instance, if the bowel movement is red, one should not jump

to a conclusion and report that it contains blood. The discoloration might be due to some food or to some medicine taken by the patient. Such a report should be that the bowel movement looked red as though it might contain blood.

Do not fail to report things because they may seem trivial. What seems unimportant may have a serious bearing on the case. Sometimes it is a very trivial symptom that enables a physician to distinguish between two similar diseases.

The three most important signs to be recorded are the pulse, temperature and respiration. Ordinarily these are taken every four hours.

Pulse. The rate of the pulse corresponds with the rate of the heart beat. Every time the heart contracts it sends a quantity of blood into the arteries, causing them to distend. The arteries lie nearer the surface at some places than at others, so in counting the pulse we choose a place where the artery lies near the surface. The most common place is on the inner side of the wrist, on the thumb side. At this point the radial artery lies close under the skin. The first two fingers are pressed lightly on the artery and the number of pulsations a minute are counted. The thumb never should be used in

counting the pulse, not only because it is awkward, but because the pulsations of the artery in the thumb frequently are so perceptible as to cause confusion.

The pulse rate is much higher in children than in adults. In an infant at birth the rate is 130 to 150 a minute. It gradually decreases as the child grows older until in adult life it is about 72, although some people normally have a much slower pulse rate while others have a faster one. The pulse rate usually increases with exercise or during excitement. It generally is faster when standing than when sitting and when sitting than when lying. It usually is faster in women than in men. In fever cases the pulse rate ordinarily increases as the body temperature rises. If the pulse increases as the temperature falls, the outlook is grave. This condition has been called "the death cross."

The rate or frequency is not the only observation to make regarding the pulse. We should notice its fullness and regularity. It is said to be full when the artery is distended by a large volume of blood. It is regular when the beats occur at regular intervals and are of the same fullness. An intermittent pulse is one that skips one out of every few beats, as every fourth beat. Often this indi-

cates a nervous condition rather than any change in the structure of the heart. It may follow the immoderate use of tobacco, tea, coffee or other stimulant. A pulse is said to be dicrotic when there seems to be two beats, one strong and one weaker, to each beat of the heart. In reality there only is one beat, the second one being a recoil wave. Only the first one should be counted. This condition is common in some diseases, such as typhoid.

Temperature. The normal temperature of the body is 98.6° F., but, like the pulse, there may be some variation with the individual. In infants the temperature usually is slightly higher than in adults, while in old age the temperature not uncommonly is a little subnormal. A body temperature below 95° or above 108°, if it persists any length of time, is likely to be followed by death. In many cases as death approaches the temperature increases and may be as high as 110°. In sunstroke the temperature has been known to go as high as 112°. There seems to be a nervous temperature, too. Some people with a slight cold will have a high temperature while others may be quite seriously ill and carry very little temperature. With them, the nervous equilibrium seems to be so well balanced that

it requires considerable change in the body health to affect any change in temperature.

The temperature varies slightly during the day, being at its lowest between five and nine in the morning. For this reason we see the necessity of providing a patient with extra bed-clothing during the early morning hours.

In taking the temperature, the most common method is to insert the thermometer in the mouth under the tongue, holding it there with the lips closed for two or three minutes. The time required varies with the thermometer. The ones in most common use require two minutes even though they are claimed to be half minute thermometers. With young children or with delirious or unconscious persons the temperature must be taken per rectum or per axilla. If taken the former way, the thermometer is oiled slightly, then inserted one and one-half inches in the rectum and held in place for a few minutes. Care must be taken that the rectum is not loaded with feces as this might interfere with the correct record. The temperature per rectum is about one-half degree higher than by mouth, so if the temperature is taken in this manner this fact must be reported to the physician. In taking the

temperature per axilla, the axilla, or space under the arms, is first wiped dry from perspiration, then the bulb of the thermometer is placed between the folds of the skin of the arm-pit, the elbow bent and the arm held close to the side. The thermometer should remain in place at least five minutes in order to insure a correct record. The record here will be about one-half a degree lower than in the mouth, therefore this fact also must be reported.

After using the thermometer it should be washed carefully in soap and water, then cleansed with alcohol or a five per-cent. carbolic solution and wiped dry. Before being used again it should be washed with clean water and shaken so that it registers below ninety-six. The temperature by mouth should not be taken for half an hour after eating or drinking, as hot or cold drinks affect the temperature of the mouth for some time.

Fevers are said to end by crisis or lysis. By crisis is understood a sudden fall of temperature, which usually is accompanied by a profuse perspiration and a lessening of the pulse rate and also of the rate of respiration. Diseases which commence suddenly usually end by crisis (as pneumonia). Diseases of a slow onset, as typhoid fever, usually end

by lysis, that is, the temperature gradually lowers, but there is no sudden drop. A sudden rise or fall of temperature should be reported to the physician immediately.

Respiration. By respiration is meant the act or function of breathing. We breathe about once to every four heart beats or about eighteen times a minute. Children and men usually breathe chiefly from the lower part of the lungs, that is, abdominally. Women are inclined to use the upper part of the lungs chiefly. They are said to have a thoracic breathing. The respirations may be counted by watching the chest rise and fall, counting the number of times per minute. This should be done when the patient is not aware of what is taking place, as no one ever breathes naturally if conscious that some one is watching him breathe. A physician usually counts the respirations while the patient thinks he still is counting the pulse as he keeps the hand on the pulse while counting the respiration. In counting the respirations one also should note if they are deep or shallow, regular or irregular, free or labored.

A peculiar form of breathing is called the Cheyne-Stokes breathing. The patient appears to be not

breathing, then the respirations begin slowly and gradually increase in frequency until very rapid, then gradually decrease until they appear to cease. This breathing frequently accompanies a disorder of the brain and always is a serious symptom.

General Conditions of the Body. The general condition of the body of a patient should be noted. Any deformity should be remembered by the nurse and recorded on her report. This is important as the deformity may account for some symptoms. Obesity or emaciation should be noticed, especially if it affects one portion of the body more than others.

General Conditions of the Skin. The condition of the skin, if it is hot and dry, or cold and clammy, should be noticed. A high temperature with a damp skin indicates great weakness and is a grave symptom. The perspiration should be noticed as to its amount and its location if confined to certain portions of the body. Sometimes there is a peculiar odor to the perspiration. Any eruption on the skin should be noted as to its character and location. Any ulcers, old or recent scars should be reported. Sometimes great nervous symptoms are due to pressure from a scar which has escaped notice. Any

redness of the skin or commencement of bed-sores should be attended to at once. If the physician's attention is called to such a condition he will at once prescribe the treatment.

Face. The expression of the face is important. A pinched, anxious expression often is associated with grave prognosis. A dull, apathetic, expressionless countenance often is significant of a serious illness. Such a condition frequently is seen in typhoid. After the crisis of a disease there may be a noticeable calm and peaceful expression. A drawn appearance around the mouth often accompanies nausea. A flush or bright red spot on one or both cheeks may accompany a disease of the lungs, as tuberculosis. The spot may be on the side of the afflicted lung. Sudden paleness of the face may indicate a hemorrhage. In cases of paralysis or mental disease one should notice if both sides are afflicted alike. The color of the skin varies with different diseases. It may be pale or jaundiced; it may be cyanosed or bluish, indicating an insufficient supply of oxygen. In pneumonia the face usually becomes markedly blue before death.

The Eyes. The eyes should be noted as to the

color of the conjunctiva and also as to the condition of the pupils, which may be dilated, contracted or unequal in size. The eyes may be wide open although the patient is unconscious. This is called coma-vigil and is a serious indication. The eyeballs may be rolled from side to side as in great nervous excitement. There may be a protrusion of the eyeballs.

Mouth and Speech. The condition of the tongue varies greatly in different diseases and at different times with the same disease. It may be pale and flabby with teeth marks along the edge. It may be bright red or it may be spotted with bright red spots. This condition is called the "strawberry" tongue and is noticeable in scarlet fever. The entire tongue may be coated with a fur which may vary in color from a dirty white to a dark brown. It may be dry or moist; it may be sore, tender and bleeding; it may be swollen. The condition of the teeth and gums should be noted. Some distressing stomach conditions are due to decayed teeth. In some diseases, as typhoid, the teeth may be coated with a brown coating called sordes.

Taste and Appetite. The amount of food taken and the time at which it was taken should be re-

corded. Also one should note whether the patient seems to relish the food or if it is eaten without any relish. Sometimes the patient seems to be fairly ravenous for food. The amount of liquids taken should be recorded. It is not uncommon for a physician to be told that the patient has not eaten anything for a day or two, but upon closer inquiry he obtains the information that the patient has taken a quantity of milk, soup or broth sufficient for his needs.

A bitter taste is common with indigestion while a salty taste is common in pulmonary tuberculosis. Certain drugs produce a characteristic taste in the mouth.

The Mind. If at any time the patient is unconscious the time and duration should be noted. If he appears irrational, this also should be recorded. He may be very much depressed or be hilarious. There may be active delirium or persistent melancholia. The speech should be noted if it is thick or clear. The patient may be hoarse or may scream continually.

Sleep. The number of hours of sleep, also the character of the sleep should be reported. The patient may sleep quietly or he may be restless and dis-

turbed. He may sleep lightly and be awakened easily or he may be aroused with difficulty. Sometimes a patient is not aware he has been asleep and will insist that he has not slept a wink when in reality he has had several hours' sleep.

Excretions. All excretions from the body should be promptly disinfected and then removed from the room and disposed of. The nature, quantity and time of voiding of these excretions should be reported to the physician. The condition of the bowels should be watched carefully, noting if there is a diarrhœa or constipation. The nature (liquid or solid), also the color of the feces should be noted. They may be discolored from medicine, from blood or from something else. Some medicines, as bismuth, produce a black movement. If a hemorrhage has taken place and the blood has been retained in the bowels for some time, it may give a tarry appearance to the feces. So it is wise to save any unusual looking specimen for the physician to inspect. It may be kept in a covered vessel, but the better way is to place some of the feces in a wide-mouthed bottle, as a mason jar, and cover it tightly. Then, if the physician desires, he may take it to be examined under the microscope. One

should notice if the feces contain pus, undigested food or milk-curds. The latter show that the milk taken is not being digested. With young babies especially, the bowel movements are an important item in the diagnosis, as the greater portion of the disorders of babyhood arise from improperly digested food.

The urine should be measured when voided and the amount and time of voiding should be recorded. This is important as the patient may be passing too much or too little urine. If the urine appears otherwise than normal a specimen should be saved for the physician. To do this a bottle holding about six ounces should be thoroughly washed and boiled. The urine is then voided in a clean vessel and immediately poured in the bottle and stoppered with a clean stopper.

Vomiting. Should this occur, the time of occurrence, also the nature of the vomitus should be recorded and a specimen saved in a closed vessel. Anything that might cause the vomiting should be noted, as medicine taken just a few moments previously. If the patient is nauseated but does not vomit this should be noted.

Cough. When this occurs the frequency and

duration, also the nature, should be recorded. It may occur in paroxysms or be short, barking and difficult to control; it may be deep and hollow or ringing and brassy; it may be high-pitched and superficial, it may be a croupy cough with a crowing sound or it may be the typical whoop of whooping-cough. It may be worse at times of day or night or brought on by certain positions as by lying down or by moving. The quality of the expectoration is an important symptom. It may be clear and tenacious like the white of an egg, it may be mucopurulent, that is, consisting of a mixture of mucus and pus. It may be ropy and tenacious or frothy and streaked with blood. This latter condition often is called "prune juice" sputum.

Position of Patient in Bed. This often is indicative of the portion of the body affected. If the heart is affected the patient may be much more comfortable sitting than lying. If one lung is affected he may lie on that side so as to give the well lung all the freedom possible. In any abdominal trouble the patient usually is easier with the thighs flexed as that relaxes the abdominal muscles.

A patient in great pain usually lies quietly, while a nervous condition is indicated by restlessness.

Extreme restlessness often is common towards the end in fatal cases. In these cases also the patient seems to slip down towards the foot of the bed.

Rigors or Chills. Should these occur the duration, intensity and time of occurrence should be recorded. The temperature should be taken during and after a chill. Chills are a very important symptom in any disease, except malaria, as they indicate a complicating suppurative process, that is, they indicate that pus is forming in some part of the body.

Hemorrhage. In this case the appearance of the blood, whether it is fluid or coagulated, its color, and whether it is mixed with other substances are important. The quantity should be estimated, also the source of the bleeding if possible.

Pain. Its position, duration and character should be noted, also any attending circumstances. In hysterical cases the patient always complains of pain when in the presence of one who is sympathetic while if he is alone, or thinks he is, the pain does not seem to be present. The real pain may be dull, aching, or sharp and cutting. It may be steady or be worse at times. All these are valuable aids in diagnosis.

CHAPTER V

DAILY CARE OF THE PATIENT

In the daily care of the patient, the first consideration is to carry out all orders of the physician exactly on time. The next consideration is to make the patient as comfortable as possible.

Absolute cleanliness of patient and bed is a great aid towards hastening convalescence. As soon as the patient awakens in the morning, his face and hands should be bathed, his teeth brushed, and the bed clothes straightened. Then the patient may be given his breakfast, after which the more extensive toilet may be made.

As a rule, bed patients should be given two full baths a week, and on the other days the face, hands, groin and axilla should be sponged. The bed clothing should be loosened and smoothed every morning, even though no change in linen is made.

The hair should be combed at least once every twenty-four hours. Frequently this is a point neglected by the untrained nurse. It is best to part

the hair of women patients in two strands at the back, then one side at a time can be arranged without placing the patient in an uncomfortable position. The combing and brushing should be done gently but firmly. One should begin at the ends of the hair and work upwards, grasping the hair with the left hand between the comb and scalp in order to avoid pulling on the roots. The best way to arrange the hair is in two braids. Be sure to start them well around at the side and down low enough so they will not be uncomfortable, or so that the patient will not be compelled to lie on a hard knot. When a patient is compelled to lie in bed a number of weeks the hair may be washed without danger to the patient. The patient's head should be moved well towards the edge of the bed, the pillow protected with a rubber sheet, then one side at a time may be washed. Have ready two basins of rather hot water, one containing borax and a shampoo mixture, the other plain water for rinsing. The washing can be done quickly and the scalp and hair nearly dried at once by the use of several towels. The hair may remain spread out on the pillow until thoroughly dry. If, through neglect, the hair has become matted, olive oil should be applied and then

the hair untangled one strand at a time. Be careful not to tire the patient by doing too much at once. If the hair is tangled badly it may take several days before it is all straightened out.

The mouth and teeth should receive close attention and be kept as sweet and clean as possible. In some cases the accumulation of sordes (brown coating) is rapid and the mouth must be cleansed frequently. There are many good mouth washes. A solution of boracic acid or diluted listerine is good. With a very sick patient a tooth brush is inconvenient, therefore the mouth should be cleansed with small squares of gauze which may be thrown away after use.

The condition of the *hands and nails* of a patient often indicates the thoroughness of the nurse. The nails should be kept clean and filed when necessary. The toe nails also should be given attention and not allowed to become long.

Usually *bed sores* indicate neglect, although in some cases it is impossible to avoid them. To guard against them the back, especially the lower part, should be rubbed with alcohol, vinegar or other astringent at least night and morning. Every day the nurse should examine the body to see that there

are no red spots showing pressure. When these occur they should be well rubbed with the alcohol and the pressure on the parts relieved by the use of a ring or pad. If the patient has involuntary urinations, it is well to massage the lower part of the back with castor oil. This should be repeated every time the bed clothing is changed as it makes the skin impervious to water and helps to avoid bed sores. If a bed sore develops the physician should be notified at once so that he may prescribe the treatment. Keeping the bed free from crumbs and wrinkles is another preventive. Changing the position frequently so as to avoid pressure on any one part is another measure.

In *moving a helpless patient* the nurse never should attempt to lift him alone. She must have at least one assistant. She should place one arm under the neck of the patient in such a manner that the head will rest on her arm. Her other hand and arm should be placed under the middle of the back. The assistant places one hand and arm under the lower part of the back and the other under the knees. Then they lift together. If the patient has an injured limb it will require another assistant to hold that. The patient can be moved from one side of

the bed to the other on the draw sheet which can be pulled gently. To carry a patient requires two persons. A nurse never should overestimate her strength nor strain her back by lifting.

In *placing a bed pan* under the patient he should raise his hips from the bed; the nurse then inserts the bed pan gently. She never should drag the pan out. Especially in cold weather, the pan should be warmed before use.

In *feeding a patient* one should strive to make the food as attractive as possible. Always have a clean napkin on the tray. Use the prettiest dishes obtainable and serve everything daintily so as to attract the patient's appetite. Serve only a small amount of anything. It is better to serve a second helping than to have an overloaded tray. A sick person's appetite may be tempted by a daintily served meal, while an overloaded tray may cause the capricious appetite to vanish. Every hot dish should be served hot, not lukewarm. It frequently is necessary for a nurse to feed a feeble patient. In doing so she never should hurry. An unconscious person may be fed by putting a few drops of liquid at a time in the mouth, but should not be given enough at any time to cause choking. A patient who refuses

to swallow may be compelled to do so by placing a spoonful of liquid in the mouth and holding the mouth and nostrils closed.

CHAPTER VI

BATHS

ORDINARILY, we think of a bath as a cleansing agent only. There probably is no other health producing agent so imperfectly understood and yet so capable of yielding comfort and benefit. Cleanliness is essential to health and hence a bath is useful for that purpose alone. There are innumerable small glands in the skin that have important functions to perform for the welfare of the body. One set of these glands produces an oil which keeps the skin in good condition, another set helps to carry away the waste material formed in the body. The watery portion of the waste material evaporates, leaving a residue on the skin which becomes rancid after a time and not only produces an unpleasant odor but clogs the pores. If any of the pores become clogged with waste material it will be impossible for the glands to do their work properly. Hence a cleansing bath is necessary for the health of the body.

Another important result of intelligent bathing is the effect upon the blood and circulation, and upon the nervous system. Besides being given for cleanliness, baths are given to reduce inflammation or fever, to produce relaxation of the muscles and nerves, to induce perspiration and to modify the circulation of the blood. They may be classified according to the special purposes for which they are given, according to their mode of preparation and ingredients, or according to the temperature at which they are given.

According to temperature, they may be classified as hot (from 100° to 112° F.), warm (from 90° to 100° F.), tepid (from 70° to 90° F.), and cold (from 33° to 70° F.).

Effects of Baths. Baths of all temperatures are given to reduce fever and inflammation. The temperature is reduced by cooling the blood and equalizing the circulation. The older method was to give only cold baths to reduce fever, but the more modern method is to give warm baths. Cold water applied to the surface tends to contract the surface capillaries and drive the blood inwards. If the system is strong enough, the reaction will be to dilate the surface capillaries; but if the system is

weakened, this reaction may not take place. With warm baths the temperature is reduced by evaporation. The heat applied to the skin dilates the surface capillaries and tends to bring the blood to the surface, then the water which is allowed to evaporate from the skin takes up the heat and so cools the blood.

Baths also are given to relieve thirst. Thirst is a sign that the system needs water, and this may be absorbed through the skin. After an abdominal operation when a patient is not allowed a drink on account of the vomiting which would result, bathing the face and hands will lessen the thirst.

Hot and vapor baths are given to induce perspiration. They are given especially in diseases of the kidneys to cause the skin to carry away the waste material which cannot be taken care of by the diseased kidneys. These baths also are given for nervousness. Hot baths stimulate the nervous system but they should not be continued too long at a time as overstimulation would result in faintness. Warm baths have a sedative effect. For this reason they frequently are given at night to induce sleep. Their general effect is to relieve the congestion of the brain and internal organs. They dilate the sur-

face capillaries and as the blood is drawn to the surface the congestion in other parts is relieved and sleep follows. In the same manner, hot foot baths may relieve sleeplessness and also cure headache. Whenever any hot bath or hot foot bath is given for these purposes a cold cloth should be applied to the head at the same time. This prevents a rush of blood to the head and also is an aid in the equalization of the circulation. The same principle is in force when heat is applied to the feet to reduce fever. Very frequently when the head is "burning up" with fever the feet will be found to be cold. At such times cold applied to the head and heat to the feet will reduce the temperature by equalizing the circulation.

Hot alcohol sweats sometimes are given instead of hot baths in severe kidney lesions. Acid steam baths often are given in rheumatism. These are similar to alcohol sweats only vinegar is used instead of alcohol.

Baths may be given to overcome stupor or delirium and to soothe irritations of the skin. For the latter, starch baths, either sponge or tub, are given. About eight ounces of starch are used to a gallon of water.

DIRECTIONS FOR GIVING BATHS

Sponge Baths. The bath most commonly given a bed patient is a sponge bath. This may be given for cleanliness, for nervousness, or to reduce temperature. The water may be of any temperature desired and may, or may not, contain various drugs, as alcohol.

In giving a sponge bath, everything should be in readiness before commencing the bath so that the nurse will not have to leave the patient until the bath is finished. The clothing that is to be used after the bath should be well aired and in readiness. When the sponge is given for temperature, the necessary articles besides the clothing are two blankets, one basin of warm water and one of cold water containing ice, a cloth for the head and a wash cloth.

The patient is placed between blankets, using the same method as in changing the bed linen. All clothing is removed. A cloth wrung out of the ice water is applied to the forehead. (This should be renewed from time to time so that it does not become warm.) The face is first bathed lightly with the wash cloth wet in warm water, then the re-

mainder of the body is bathed in the following order,—chest, abdomen, back, arms, legs. Remember the benefit is to be derived from the evaporation which is to cool the blood, so the body should not be dried but the water allowed to evaporate. The wash cloth should not be wrung tightly, neither should it be so filled with water that the bed will become wet. The bathing should be done with long strokes, always towards the heart. For example, in bathing the arms the strokes should be the full length of the arm, going from the hand to the shoulder. A light stroke should be used. The inner surface of the arms and legs, the axilla, groin and neck should receive especial attention, as in these places the larger blood vessels lie near the surface and the bathing will have greater results. The entire bath should last from twenty minutes to half an hour. Only the portion of the body that is being bathed should be exposed, the remainder being kept covered with the blanket.

A sponge bath for nervousness should be given in a similar manner. In giving a bath, a nurse's manner should be quiet and calm so as not to excite the patient. Even in a bath for temperature, half the benefit of the bath is lost if the patient becomes rest-

less and fretful. By her calm, yet assured manner the nurse should quiet the patient.

In giving a sponge for cleanliness, practically the same method is used except that the ice water for the head is not necessary and an additional basin of warm water and soap are required. The nurse should bathe one portion of the body at a time with the soapy water, rinse it with clear water and wipe dry. With delicate patients it is not necessary to expose the body at all as it is possible to bathe the patient by reaching under the blanket. However, one portion at a time usually is exposed as the nurse can work more quickly and easily by this method.

Foot Baths. To give a foot bath in bed the upper bed clothes are loosened at the foot. The lower sheet is protected by a rubber sheet or several thicknesses of newspapers. The patient lies on his back with the thighs and legs flexed so that the feet are easily placed in the foot tub. The upper bed clothes are then drawn around the feet. The water for a foot bath should not be too hot at first. It is better to place only a small amount of comfortably warm water in the tub at first and then gradually add hot water until the water in the tub is as hot as can be borne. The feet should remain in the

water about fifteen minutes. A little mustard added to the water increases the benefit derived from the bath. This should be added in the proportion of a tablespoonful to a gallon of water. It should be mixed with a little cold water before being added to the hot water.

Hot foot baths are used for headache, neuralgia in various parts of the body, dysmenorrhoea and sleeplessness. They also are useful for the chronic cold feet of elderly people which are due to poor circulation. Such a person should take a hot mustard foot bath before retiring, allowing the feet to remain in the water fifteen or twenty minutes. After any hot foot bath the feet should be well dried and then not exposed to draughts.

Sitz Baths. Sitz baths are given for dysmenorrhoea (painful menstruation) and diseases of the pelvic organs. The patient should sit in a tub with the feet and hips immersed in water. Hot water should be added from time to time so as to keep the bath hot. The patient should remain in the water about fifteen minutes. A cold cloth should be applied to the head. The hot water draws the blood to the surface and so relieves the congestion of the

internal organs. Mustard added to the bath increases its action.

Tub Baths. In giving a patient a hot tub bath, the water should be only comfortably warm at first and the hot water should be added gradually. A cold cloth always should be applied to the head. The patient never should be left alone in the tub as the overstimulation may produce faintness. A hot bath never should be taken for at least two hours after a meal and is best followed by a cool sponge or shower. A patient should rest in bed for at least an hour after a hot tub bath.

Alcohol Sweat. To give this, the patient is placed between blankets as for a sponge bath. A couple of extra blankets are placed on top of the bed and a small blanket is pinned around the shoulders of the patient so as to prevent them becoming exposed. A rubber sheet is placed under the lower blanket and the edges drawn up to meet the edges of a similar rubber sheet which has been placed, rubber side down, over the top blanket. This leaves the patient in a rubber case wrapped in blankets. A cloth wrung out of ice water is placed on the patient's head, well down over the temples. This

must be renewed frequently. It is well even to lay a few pieces of ice in the folds of the cloth. The patient is then given a hot drink. Hot bricks encased in flannel bags are laid *near* the patient, between the first and second blankets. Great care should be exercised to be sure that the bricks are at least a couple of inches from the patient's body and that one or more thicknesses of blanket are between the bricks and the body. One brick should be placed at each foot, two beside each leg,— one midway between the hips and knees and one midway between the knees and ankles. A brick should not be placed near a joint, for if a burn should occur it would be more serious if directly over a joint. About a tablespoonful of alcohol is poured on each brick and then the blankets are tucked in tightly as before. This allows the vapor from the alcohol to reach the patient and so aid in the sweating process.

Hot Pack. A sheet is wrung out of hot water and the entire body of the patient is wrapped in this. A blanket is laid over the top and the bed is protected by a rubber sheet. A cold cloth should be applied to the head. This treatment frequently is prescribed for nervousness.

Ice Pack. This is prepared similar to a hot pack,

only after the patient has been wrapped in the sheet, pieces of ice are laid along the course of the large blood vessels and the blanket is omitted from over the patient. This treatment is given to reduce temperature and the patient should remain in the pack about twenty minutes.

Affusion or Pouring on of Water. The patient is wrapped in a wet sheet as in the previous case, the rubber sheet is folded up at the sides, top and bottom and pinned at the corners so as to form a basin; water is then poured on gently, sometimes from a sprinkling can. Such a bath may be given to reduce temperature.

CHAPTER VII

APPLIANCES FOR THE RELIEF OF BED PATIENTS

When the patient is compelled to remain in one position for any length of time he becomes very tired and also is liable to develop bed sores at the points of pressure. In order to avoid this, great care is necessary and the ingenuity of the nurse often is taxed to devise measure for the relief of the patient.

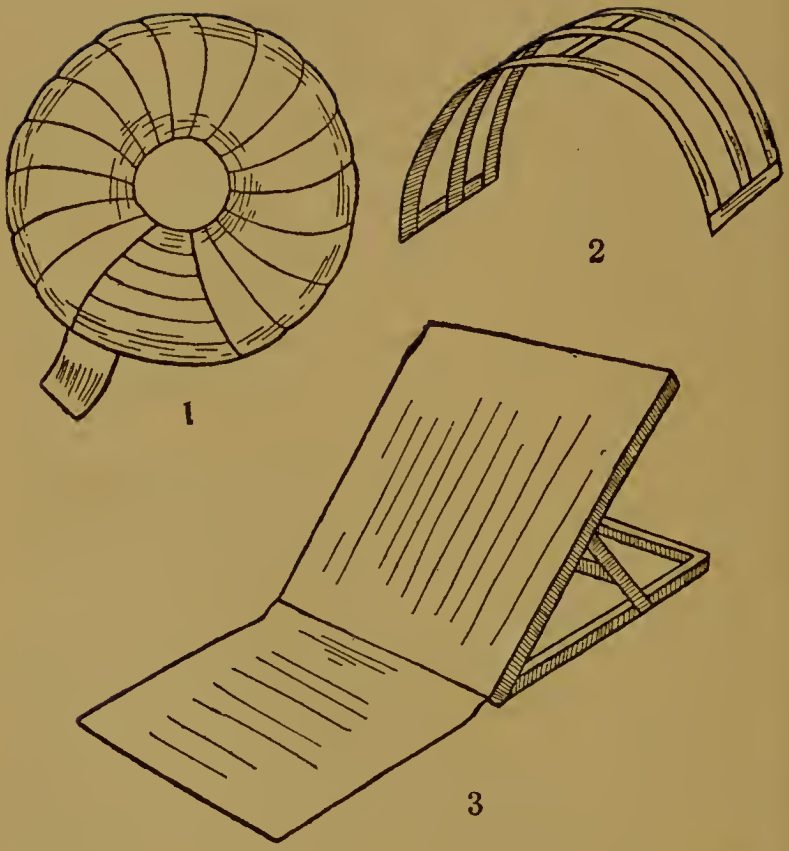
The position of the patient should, if possible, be changed several times a day. A person who is very ill is inclined to remain in one position, and that position is most often on his back, which is the position that predisposes to pneumonia. The patient should be turned on his side and his back supported by a pillow tucked snugly along the middle of it. Rubbing downward along the spine with the hand moistened with alcohol is very restful to the tired patient. Rubbing the limbs lightly also helps to rest the patient.

Where a patient is compelled to lie on his back,

pressure should be relieved by the use of a rubber air cushion or other device. Where these are not obtainable a good substitute can be made of cotton. A circular pad of cotton about eighteen inches across, with a hole in the center about ten inches in diameter, is prepared. This may be wound lightly with a muslin strip or bandage. This ring placed under the patient relieves the pressure at the end of the spine which is the most common seat of bed sores. Similar rings may be placed under the shoulders and smaller ones under the heels. The most common locations for bed sores are the lower part of the back, hips, shoulder blades, elbows, tips of ears, back of neck, inner surface of knees, heels and ankles. On the slightest indication of redness, even before the patient complains of any pain, care should be taken to remove all pressure.

A pillow or old-fashioned bolster placed under the knees of one lying on his back makes it easy for him to keep them up in a position that relaxes the abdominal muscles and produces considerable comfort. A pad or pillow, placed at the foot of the bed against which the patient can rest his feet, prevents him from slipping down in the bed.

A cradle, made from two half barrel hoops fast-



1. RING FOR RELIEF OF PRESSURE
2. BED-CRADLE 3. BACK-REST

ened together about a foot apart with three or four strips of lath, placed over an injured limb will raise the bed clothes whose weight often causes considerable discomfort.

A back rest can be devised for the patient who is allowed to sit up in bed. A straight-backed chair is turned upside down and placed so the back will slope away from the patient's back. Pillows should be placed along the back of the chair.

In moving a patient simply to change his position it is of the utmost importance to support the patient. If this is done properly a heavy patient usually can be moved by any nurse without injury to herself. One thing to bear in mind is that supporting a patient and lifting a patient are two entirely different things.

Patient - Ella James Date - Sept. 29, 1913.

Physician - Dr. Brown

Nurse - Jane Doe

Hour	P	T	R	Medicine	Nourishment	Def	U	Remarks
6 a.m.	88	100	22	℞ 2371 ʒ I	milk ʒ VIII			
6 30							ʒ X	
7 00								Sponge bath
8					Beef broth ʒ VIII			
9						V		Bowel mov't
								light yellow fluid
10	90	101	22	℞ 2371 ʒ I				

SPECIMEN RECORD

CHAPTER VIII

THE NURSE'S WRITTEN REPORT

It would be impossible for any nurse, trained or otherwise, to remember everything that occurred in connection with a patient during twenty-four hours and then tell it to the physician in a few minutes on the occasion of his daily visit. The necessity of keeping an accurate written report, in such a form that it may be read by the doctor in a few minutes, is evident. A form of chart which is used universally permits the record of an entire day being kept on one page, and the physician can see at a glance all important symptoms.

At the top of the sheet should be the date, also the name of the patient, the physician and the nurse. This makes it possible to make a permanent record of the report which may be filed for future reference. Especially in accident cases, this has proven valuable, for such a report would be accepted as testimony in court.

The first column gives the hour at which the ob-

servation is recorded. The first record necessarily would be the first one after midnight. The second column contains a record of the pulse rate at various times during the day. It is customary to record the temperature and respiration at the same time and these are placed in the third and fourth columns respectively.

The medicine given is recorded in the fifth column. Professional nurses use the signs ℥ and ℨ in recording the amount of medicine. The former means drams. A dram is equal to a small teaspoonful. The second sign indicates ounces. An ounce is equal to eight drams. Liquid nourishment, water and urine usually are recorded in ounces. A prescription filled at a drug store has on its label the sign ℞ with a number following. The sign means recipe and the number indicates the number of the recipe or prescription which has been placed on file by the druggist. It is customary for nurses to indicate the medicine given by recording the sign and number of the prescription.

The sixth column shows the nourishment taken. Water or any other drink also should be recorded in this column. If the patient is eating regular meals it will be sufficient to record "regular tray."

The seventh column shows the number of bowel movements. Opposite any record of this sort the character of the movement should be recorded in the last column. The eighth column indicates the amount of urine voided. All urine passed should be measured and the amount recorded in ounces.

The last column might be called miscellaneous, for it contains all records that cannot well be placed in any of the other columns. It might also be called the explanatory column; for here may be written remarks explaining or enlarging upon other records.

It is well to keep the record in an adjoining room, out of sight of the patient, who should not be allowed to read it. The chief essentials of a good report are that it should be neat, accurate, and concise but comprehensive.

CHAPTER IX

ADMINISTRATION OF MEDICINE

An important part of a nurse's duty is the administration of medicine. Accuracy is the keynote to be kept in mind when dealing with drugs. There are some remedies which are beneficial if taken in small doses that would be poisonous if taken in greater quantities. For instance, a correct dose of morphine or strychnine given at the right time may save a life, but an overdose would have disastrous results.

A physician who prescribes medicine must be acquainted with the action of the drug in both large and small doses. He also knows how long it will take for the effect of the drug to wear off and when it will be desirable to repeat the dose. He makes a prescription which may include several drugs but which will have a certain amount of a drug to each dose and can anticipate the action of the medicine. It is not uncommon for patients to counteract the effect of the treatment by overzealousness. For

example, a doctor leaves a bottle of medicine with the directions that one teaspoonful is to be taken every three hours. After the first dose, the patient feels some better, so he thinks to hasten his recovery by increasing the dose and lessening the time between doses. So, instead of waiting three hours, he takes another dose in two hours and also increases the dose to a teaspoonful and a half "so as to have a good measure." As a result, the effects are not what the doctor anticipated nor desired. It is a similar case to that of the man who thought if a little exercise was beneficial more would be doubly so. As a result, he rode a wheel until he dropped from exhaustion. Taking medicine can be likened to taking exercise. It is not violent exercise that is beneficial in developing a muscle, but the constant repetition of light exercise.

There are five principal methods of administering medicine,— by the mouth, by rectum, subcutaneously or by the hypodermic method, by inhalation into the lungs, by inunction or absorption through the skin. Occasionally medicine is given intravenously or injected directly into the veins.

The most common way to give medicine is by mouth but sometimes the other methods must be

used. A patient may be unconscious and so unable to take medicine by mouth, the medicine given may be too irritating to the stomach, or a quick action may be desired, in which case the hypodermic method is used.

The effect of the medicine is obtained only after it has been absorbed by the blood. The rapidity of the absorption depends upon how the medicine is given, the state of the circulation, the solubility of the medicine and its power of passing through living membrane. Medicine given by mouth reaches the blood in about twenty minutes. If given on an empty stomach its absorption is a little more rapid than if given after a meal, but some medicines are so irritating that they must be given after meals in order to be diluted with the food. Pills and powders are absorbed more slowly than liquid medicine as they must be dissolved first. Medicine given by inhalation has a more rapid effect, while that given subcutaneously usually is effective in from three to five minutes. Medicine given by rectum requires about three-fourths of an hour for effect as the absorption is very slow in the lower intestine.

Precaution in Handling Medicine. It is advisable for a nurse to know the tables of weights and

measures, especially the apothecary's tables. She also should know the systemic and local effects of the most common drugs. In measuring medicine it is well to use the regulation medicine glasses or spoons as the ordinary spoons vary so greatly in size. Medicine that is to be given before meals should be given about a half hour before the meal and that to be given afterwards, a half hour after the meal unless otherwise ordered. Medicine may be administered to an unconscious person by dropping a few drops at a time well back on the tongue.

In giving solutions the bottle should be well shaken and the medicine poured from the side opposite the label so that if any medicine should run down the side of the bottle it will not soil the label. A nurse should look carefully at the label both before and after she has poured the medicine. This second inspection serves to avoid many dangerous mistakes. No one ever should take any medicine in the dark. The habit which some people have of going to the medicine case in the dark after a certain bottle is reprehensible. Many deaths have followed such careless habits. No matter how certain a person is that she can get the right medicine in the

dark, there is a possibility that some one has changed the bottles since her last visit to the closet. Striking a light is such a simple matter in comparison with the risk of losing a life that it seems almost inconceivable that anyone would take the risk.

Medicine never should be left in the reach of patients or children. A sick person is inclined to be despondent and in a moment of dejection may take an overdose of a drug. Children are inclined to taste everything within their reach and many deaths have resulted from carelessness in leaving poisons where they can be obtained. No unlabeled bottles ever should be allowed. Even those most experienced in handling drugs censure anyone who is so careless. All unused medicine left after the recovery of a patient should be destroyed as an accumulation of "left-overs" not only is unsightly but unsafe.

Medicine by Mouth. Liquid medicine usually is given diluted with a small amount of water. A large quantity of water should not be used as the large dose may nauseate. If the medicine is especially disagreeable, ice held in the mouth for a minute before the medicine is taken will lessen the disagreeable taste. Sometimes medicine may be

mixed with seltzer or milk to disguise the taste. Acids and milk are incompatible and therefore they should not be given together. Acids usually are well diluted and taken through a straw or tube. The teeth always should be cleansed immediately afterwards.

Castor oil may be given in the form of what is sometimes termed a "sandwich." A little orange juice is poured in the glass and the sides of the glass moistened with it. The oil is then poured directly into the middle of the glass, care being taken not to get it on the sides. A little more orange juice is then added to the top, and the whole taken at one swallow. Castor oil and other oils also may be given in coffee, milk, wine, orange juice or in capsules. Castor oil may be given to children in the white of an egg. The egg is beaten stiff, a little sugar and vanilla extract added, then the oil added drop by drop, beating the mixture constantly. Children will eat this as they would "frosting."

Pills should be placed well back on the tongue and then a glass of water administered. If the patient is unable to swallow them this way, they may be crushed and administered in jelly or sugar.

Minims and drops may be given on sugar or in water. If half a drop of medicine is ordered, a drop is mixed with two teaspoonfuls of water and half the mixture given at one dose.

Powders may be given dry, followed by water or they may be dissolved in a little hot milk or water. They also may be given in jelly or in capsules.

Purgatives should be given early in the morning as their action usually is rather rapid and if given at night the patient's sleep would be disturbed. Laxatives are best given at night as their action is slow and the effect usually is not obtained until morning.

Medicine by Inhalation. Medicines given by absorption through the lungs usually are administered through an atomizer but may be given by pouring the drug into a vessel of boiling water and allowing the patient to inhale the steam. Another method is to place the drug on a hot shovel and have the patient inhale the vapor. This method of administering medicine formerly was more commonly used than it is now.

Medicine by Rectum. Medicine by rectum is given in the form of an enema or a suppository. In the latter case the drug is incorporated with cocoa-

butter and moulded in the form of a cone which is inserted in the rectum, preferably at night as it then is more liable to remain in position. It should be inserted far enough so as to be above the internal sphincter muscle, otherwise it would be expelled. Suppositories also are made for insertion into the vagina and urethra. The method of administering medicine by enema will be explained later.

Hypodermic Medication. Medicine given subcutaneously, or under the skin, is administered by means of a hypodermic syringe. The medicine is placed in the syringe, the needle sterilized by being passed through a flame or by boiling. The latter can be done over a small gas jet or over a lighted match if the needle is placed in a spoon with just sufficient water to cover it. In removing the needle and attaching it to the syringe care must be taken to touch only the part that does not come in contact with the patient's flesh. After the needle is attached to the syringe the latter should be held with the needle pointing upwards and all air expelled by shaking the barrel gently and then pushing on the piston until a drop is expelled from the point of the needle. A portion of the patient's flesh over a muscle is then grasped between the thumb and fore-

finger of the nurse's left hand, this portion rubbed with cotton dipped in alcohol to sterilize the skin and also to numb it slightly. The needle is inserted slantingly, then withdrawn slightly and the liquid injected slowly. Gentle massage, in the same direction in which the needle was inserted, will assist in the absorption of the fluid. In inserting the needle care must be taken to avoid blood vessels and nerves. A hypodermic injection usually is given in the muscular portion of the arm or leg, but may be given in the muscles of other portions of the body.

Inunctions. Some drugs, as mercury, are very irritating to the stomach and, if their use must be continued long, they frequently are given mixed with an oily base and rubbed into the skin. When applying medicine in this manner it should be rubbed on some part where the skin is thin, as the inner side of the arms and thighs. Before applying the ointment the skin should be bathed with hot water and soap to remove the natural oil and so permit a more free absorption.

Action of Medicines. Some drugs have a cumulative effect, that is, if their use is continued for any length of time, the action is intensified as the

effect of one dose does not entirely disappear but remains to be added to the second. Such a drug must be discontinued at intervals.

Almost the opposite of these in their action are the habit forming drugs. One dose makes the person crave another and larger dose. The system adapts itself to one dose and, in order to obtain the desired result, a larger one must be taken.

Some people have an idiosyncrasy, or individual peculiarity, to certain drugs which makes the effect otherwise than is expected or desired. For this reason, it is desirable for a nurse to know what result is anticipated when any medicine is administered.

A nurse never should take the responsibility of suggesting or prescribing any medicine. If consulted as to what to give she should refer the patient to the physician. A nurse's training does not qualify her to decide as to the advisability of taking any drugs. Her duty is to follow directions exactly.

CHAPTER X

COUNTER IRRITANTS — THE RELIEF OF INFLAMMATION

THE four cardinal symptoms of inflammation are heat, pain, redness and swelling. The heat is due to the abnormal tissue change, the redness to congestion, the swelling to the increased amount of blood in the parts and to the inflammatory exudate, the pain is due to the pressure on the end organs of the nerves. Associated with the local disturbance there usually is an increased bodily temperature.

The treatment of inflammation, in the early stages, is to apply heat or cold which may cause the inflammation to subside, otherwise abscess formation may follow. In the latter case, an opening must be made to allow free drainage of the pus, otherwise it will take the line of least resistance and may find its way into a blood vessel or some body cavity and produce serious consequences.

A counter irritant is any agent which, applied

over an inflamed surface, will relieve the congestion by bringing the blood to the surface and, therefore, away from the affected parts.

Poultices and hot fomentations, applied, soften and relax the skin and tissues, dilate the blood vessels and quicken the circulation so that pure blood may flow through and relieve the tight painful feeling and also carry away the products of inflammation.

If ice is applied at first it contracts the blood vessels and may prevent congestion of blood in the parts. Ice is valuable only in the early stages of an inflammation. If pus has commenced to form, heat should be applied so as to " bring it to a head," in other words to bring it to the surface.

In early days, the most common measures used to relieve inflammation were *bleeding* and *leeching*. Either of these methods removed a portion of the blood and, therefore, the congestion. The leeches are little animals which suck the patient's blood when applied to the skin. Before being applied they are put in cold water to make them good natured, then they are applied to the skin over the inflamed area and left until full, when they will drop off of their own accord. If it is desirable to remove them

before they are satisfied, salt is applied to their heads, which treatment will cause them to let go their hold. A small piece of cotton should be placed between the body of the leech and the skin, as the constant wriggling is uncomfortable. A leech never should be applied over an artery or vein.

Later, *cupping* partly superseded these earlier methods. This was done by either the wet or the dry method. With the dry method, several glasses about the size of wine glasses are used. A small piece of cotton is wrapped around a stick, dipped in alcohol, passed through the flame of a candle, and then the inside of the glass quickly swabbed with the burning cotton. This creates a vacuum in the glass and if the glass is inverted immediately over the surface of the skin, it will cling fast and the tissues underneath will fill the vacuum. Care must be taken in swabbing the glass that the rim is not touched, otherwise the patient would receive a burn from contact with the hot glass. Wet cupping is done in a similar manner to the dry, only the skin is scarified before the glass is applied. This causes the blood to flow after the glass is applied.

The most common form of counter irritants used

by the home people is the *poultice*. For this, numerous ingredients are used, all of which have some virtue. However, the most necessary things about a poultice are that it should be applied hot and renewed often enough so as to be kept hot.

Perhaps the most generally used poultice is the flaxseed poultice. This is made of flaxseed meal. The meal first is mixed with a little cold water and then stirred into boiling water until it is the consistency of mush, after which it should be removed from the fire and beaten to remove the lumps. A layer about an inch and a half thick is then spread evenly on a muslin cloth. This is covered with another muslin cloth and the two sewed together firmly. The poultice must be replaced by a fresh one before it has become cold. A cold poultice is very annoying to a patient, besides being productive of much harm. If a little olive oil is added to the mush after it is removed from the fire, there will not be as much danger of burning the patient if the poultice is a little too hot.

A charcoal poultice is used sometimes where there is a disagreeable odor to the affected parts, as the charcoal absorbs the odors. This poultice is made by mixing one part of powdered charcoal

with two parts of flaxseed meal and proceeding as for an ordinary flaxseed poultice.

A jacket poultice is fashioned by cutting the muslin in the form of a jacket. This should be made in two pieces, a front and a back, which are applied separately and then pinned together with safety pins under the arms and on the shoulders. These jacket poultices are used frequently in pneumonia and are filled with various ingredients.

A bran poultice is made by sewing the bran up in muslin, then heating the whole in the oven or wringing it out of boiling water.

Starch poultices are used to relieve irritations of the skin. An ordinary boiled starch is made and applied either directly or on a thin piece of muslin.

A spice poultice is made by dipping a bag of spices in hot alcohol or vinegar.

A yeast poultice is used as a stimulant to a slowly healing wound. It should be applied hot, and of the consistency of bread the first time that it is mixed.

A slippery elm poultice is made by wringing a bag of slippery elm bark out of hot water. Hop poultices are made in a similar manner. On account of their lightness, these are useful in cases

where the patient cannot bear the weight of other poultices.

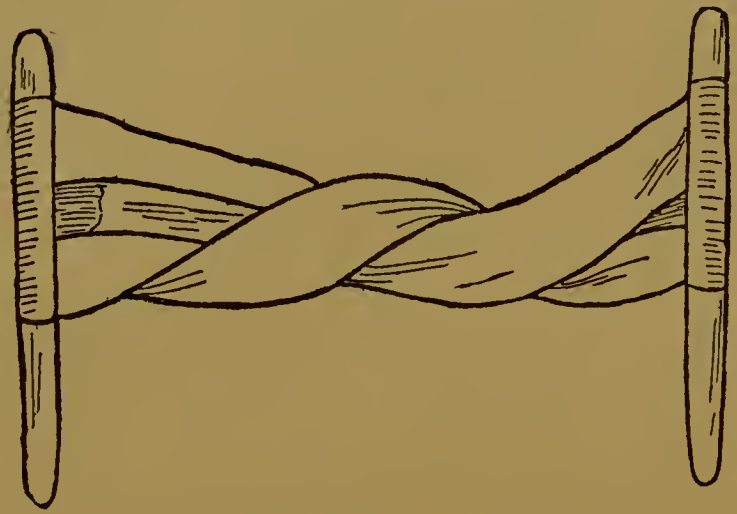
An onion poultice is made by slicing the onions and frying in olive oil or lard for fifteen or twenty minutes. Another method is to slice and pound the onions and then heat them in the oven.

Where an even dry heat is required, salt bags frequently are used. The salt is sewed up in a muslin bag and then heated in the oven. Such a bag will remain hot for several hours.

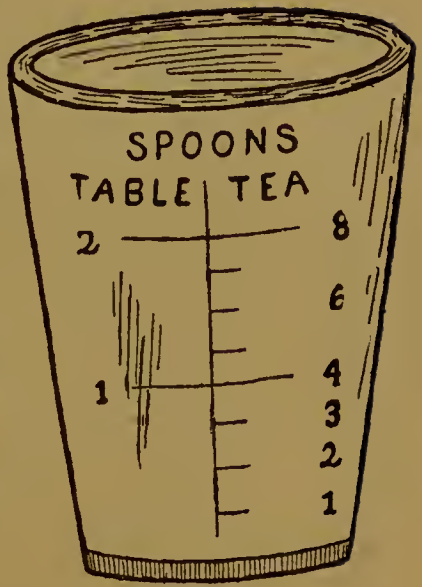
Bread poultices, or plasters, are applied cold, the bread being soaked in milk and applied directly to the surface and then covered with a muslin cloth.

Mustard plasters are applied cold. To make a mustard plaster, take equal parts of flour and ground mustard and mix with sufficient cold water to form a smooth paste. This is spread thinly on a piece of thin muslin and applied to the surface. It must be removed as soon as the skin becomes reddened or it will produce a blister. Another way to make a mustard paste that will not blister is to mix two tablespoonfuls of mustard and three of flour with the white of an egg and enough olive oil to form a smooth paste.

For spice plasters, all spices but pepper and mus-



STUPE WRINGER



MEDICINE GLASS

tard are used. Take equal parts of powdered cinnamon, cloves and allspice, mix with sufficient oil or water to form a smooth paste. The effect of such a plaster is similar to that of the mustard, only it is more mild and, therefore, more adapted to the tender skin of children.

In hospitals, the most common method of applying counter-irritation is by the use of hot water, either alone or in combination with some drug.

Hot fomentations or hot stupes are cloths wrung out of hot water and applied directly to the skin. An old flannel cloth should be used. A piece of an old wool blanket is very good, as the meshes are coarse enough to allow the steam to escape. White flannel is preferable, as the dye from colored flannel may be poisonous. The flannel, which should be of two or three thicknesses, is dipped in boiling water and then wrung dry. This is best done by placing it in a towel or stupe wringer. The latter is made of a piece of strong cloth about eighteen inches square, folded so that the sides meet in the center and with a hem at each end through which runs a stick. By placing the wet flannel in the stupe wringer and then twisting the ends in opposite directions the flannel may be wrung

dry very easily. It should be carried to the bed in the wringer so as to retain the heat. After being taken from the wringer, it is shaken quickly so as to allow the confined steam to escape. The fomentation, after being applied, is covered with a rubber cloth and a pad of cotton or wool and held in place by a bandage. The rubber cloth should be larger than the flannel cloth so as to keep the patient's clothing dry. If properly applied, neither the patient's clothing nor the bed should become wet. The fomentation should be replaced by a hot one before it has become cold. The second one should be prepared and ready to be applied before the first one is removed so that there will be no danger of chilling. After discontinuing the stupes, a warm cloth should be applied over the parts for a day or two to avoid chilling. To keep the stupes hot, it usually is necessary to change them every fifteen or twenty minutes. If the weight is not uncomfortable a hot water bag, or electric heating pad applied over the fomentation will keep it hot for several hours.

Turpentine stupes are applied in two ways. The older method is to add three teaspoonfuls of turpentine to a pint of boiling water into which the stupes

are dipped. The objection to this method is that sometimes the turpentine remains in drops which may cause blisters. The better method is to mix one part of turpentine to eight of olive oil and apply a little of the mixture to the patient's skin, then apply the stupes wrung out of plain water. These applications are especially valuable to relieve gas in the intestines. They should not be used in inflammation of the kidneys and, should any blood appear in the urine, they should be discontinued immediately.

Mustard fomentations are made by adding a tablespoonful of mustard to a pint of hot water. The mustard should be mixed with a little cold water, otherwise it will form in lumps.

Other counter irritants that sometimes are used are cantharides, blisters and various liniments which contain some irritant that will tend to dilate the blood vessels and bring the blood to the surface and away from the congested organ.

CHAPTER XI

DOUCHES, ENEMAS, INJECTIONS

A DOUCHE is a stream of water directed against a part. It is given to flush a cavity, for purposes of cleanliness, for stimulation, or to relieve inflammation or hemorrhage. The most common douches are the aural, the rectal, and the vaginal.

An aural douche is an injection into the outer ear. This usually is given for inflammation, accompanied by a discharge (for a condition commonly known as a running ear). A great many of the simple ear troubles can be relieved by douching. Many of these troubles are due to a little inflammation of the external canal which causes the wax to harden. This in turn sets up an irritation or may be the cause of partial deafness. Some ears have such a deep external canal that it is almost impossible to cleanse them with an ordinary wash cloth used when taking a bath.

To give an aural douche, or injection into the ear, provide a fountain syringe, use the glass part

of a medicine dropper instead of the ordinary syringe points. Hang the bag of the syringe so that it will be not more than a foot above the ear. If it is hung higher, the water will flow with too much force and will make the injection very painful. The bag should be filled with water as hot as can be borne by the patient. The medicine dropper will cause the stream to be very small, which is preferable. The water should flow so slowly and in such a small stream that it will take nearly fifteen minutes to empty a two quart bag. After the douche, the ear may be dried with a swab made by wrapping a small piece of absorbent cotton around a tooth pick. Small or hard instruments, such as pins, never should be allowed in the ear. It is not uncommon to see a mother clean her child's ear by inserting the head of a pin. This never should be done, as there is danger of injuring the drum and producing deafness, or an inflammation may be started that will cause serious trouble later.

The rectal douche commonly is called an enema or injection. This is an injection into the bowels and is given for constipation, diarrhoea, nourishment, and for medicine.

An evacuant enema, or one given to relieve con-

stipation, usually is given with a fountain syringe. The bag is filled with warm, soapy water made with some pure soap. In some cases, it is desirable to give this with a rectal tube, which is a long rubber tube that is inserted into the rectum about ten inches, otherwise the ordinary enema point is used.

In giving an enema, the best results are obtained by having the patient in the knee chest position. This allows the water to flow farther up the bowel and consequently reaches more parts. With a bed patient, who is unable to assume the knee chest position, the Sims' position is assumed whenever the rectal tube is used. If the ordinary enema point is used, the patient may lie in the prone position (on his back) with the hips slightly elevated. Care should be taken to protect the bed by covering the sheet and mattress with a rubber sheet or several thickness of newspapers.

In some cases of obstinate constipation, a few ounces of olive oil or castor oil are injected into the rectum and allowed to remain for several hours until the feces are softened. Then, if there are no results, a plain soap suds enema may be given. An oil enema usually is given with a hard rubber or piston syringe.

Another enema, called a 1-2-3 enema, sometimes is given. This is composed of one ounce (two tablespoonfuls) of magnesium sulphate (epsom salts), two ounces of glycerine and three ounces of warm water. This should be given very slowly as it is desirable for it to be retained for about half an hour. If a towel is pressed against the anus for a few minutes until the first desire to expel the solution has passed, it is more liable to be retained. Usually results can be obtained from this enema when everything else has failed.

A turpentine enema is given to relieve an accumulation of gas in the bowels. Although it sometimes is prepared simply by adding a teaspoonful of turpentine to a pint of water, yet the better method is to make a turpentine emulsion. This is composed of a dram (teaspoonful) of turpentine, an ounce (two tablespoonfuls) of olive oil, a pint of warm water and the white of an egg. Mix the turpentine slowly with the white of the egg, add the olive oil drop by drop, beating all the time, then add the water, which should be about blood heat. This mixture should be injected slowly and allowed to remain for about a half hour, then followed with an enema of plain water.

An enema given for diarrhoea usually consists of water in which has been boiled a little barley, flaxseed or oatmeal. It is given to soothe the irritated membrane lining the intestines, and also to wash out any irritating material which may be causing the diarrhoea.

In some cases astringent enema, containing starch and laudanum are given. To make the former, prepare an ordinary boiled starch and dilute it with warm water until it is thin enough to pass through the syringe. This is given also for hemorrhage.

A nourishing enema may consist of almost any bland liquid, usually one that is partly digested. Egg nog, malted milk, peptonized milk and predigested beef are among the ones most commonly used. A little salt always should be added. From four to six ounces is all that should be given at one time. If a larger quantity is given, it makes the desire to expel it too strong to be resisted. A cleansing enema should be given half an hour before the nutrient, otherwise the bowels might be so coated with fecal matter that no absorption of the nourishment could take place. The nutrient enema should be given slowly, and a towel pressed against the anus until the first desire to expel the

food has passed. A nutrient enema should not be given more often that once every four hours and, if it is to be continued for several days, it should not be given more than three times in twenty-four hours, otherwise the rectum will become so irritated that it will not retain the enema for any length of time.

A stimulating, nutrient enema is given in cases of extreme weakness. A stimulating enema may consist only of black coffee or of normal salt. The latter is a solution of common salt in water in about the same proportion that salt is found normally in the blood. An even teaspoonful of common salt to a quart of warm water makes about the right proportion.

An enema or an external douche often is given to relieve hemorrhoids or piles. For this condition, an enema should be taken after each movement. Just enough water should be used to wash away all irritating material from the rectum. After using the enema, some bland astringent ointment should be inserted in the rectum. Common vaseline may be used, but an ointment containing an astringent is better. If the hemorrhoids are very painful, the water should be used as hot as can be

borne and a stream of hot water should be allowed to run on the external parts for some time.

A vaginal douche is given for cleansing purposes or to reduce inflammation. It is most effective if given with the patient in the prone position, with the hips elevated slightly. The water should be allowed to flow slowly so that it takes from fifteen to twenty minutes to give a four-quart douche. Owing to the structure of the vagina, a curved douche point should be used. This is inserted downward and backward. The injection does not enter the womb, as many suppose. It is intended to flow around the cervix. The patient should lie quietly for about half an hour afterwards. For this reason a douche is best if taken at night. Also, at that time, it may be taken in the bath tub after the patient is ready for bed.

A douche given to reduce inflammation consists of clear water as hot as can be borne. In some cases an antiseptic, as bichloride of mercury, lysol or carbolic acid, is added. A douche taken for cleansing purposes should be of warm water. Cold water should not be used except by the advice of a physician as the sudden chilling is liable to produce congestion.

CHAPTER XII

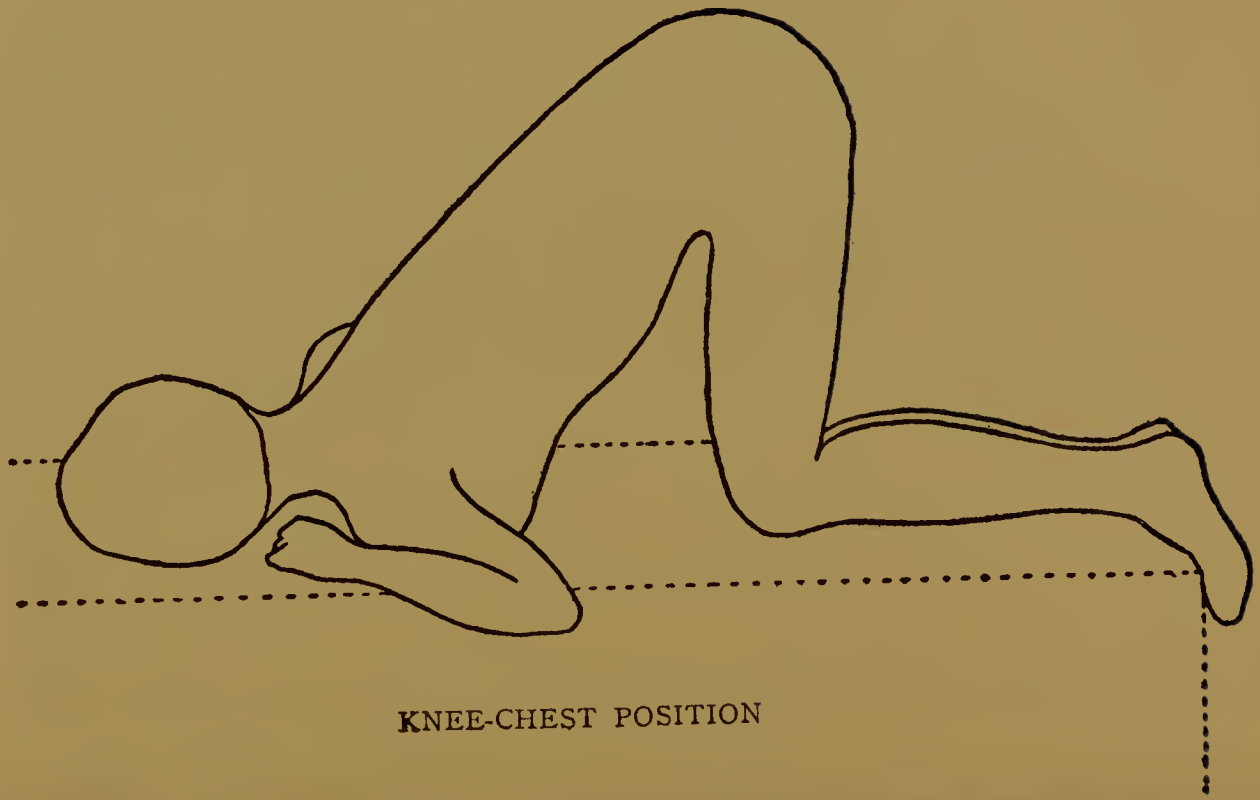
DESCRIPTION OF POSITIONS

KNEE CHEST POSITION. To assume this position, the patient kneels on the bed, then bends forward until the chest touches the bed. The thighs should be at right angles with the bed. This position is used in giving enemas and for the replacement of certain organs as it allows the intestines to fall forward and upward, thus relieving the pressure on the pelvic organs.

Sims' Position. In this position, the patient lies on his left side and chest with the left arm drawn behind him and his head and right arm rather toward the right side of the bed. The legs should be flexed and the right knee drawn up above the left. This is the usual position in which a high rectal enema is given to a bed patient.

Prone Position. In the prone, or lateral position, the patient lies on his back, usually with the legs flexed.

Fowler's Position. In this position the patient's



KNEE-CHEST POSITION

back is supported by a back rest or pillows; the legs and thighs are flexed. In order to retain this position a sheet padded with a pillow is folded so as to form a swing with the ends tied to the head of the bed. The patient is seated in this swing. A foot rest is placed against the feet so as to add to the comfort of the patient. This position is used particularly following pelvic operations that must be drained downward.

Trendelenburg Position. In this position the patient lies on his back with the body elevated toward the foot, the knees flexed over the edge of the table so as to help retain the position.

There are several other positions sometimes used in hospitals but these are the ones used most commonly in the home.

PART II

NURSING IN SPECIAL DISEASES

CHAPTER XIII

NURSING IN TYPHOID FEVER

In perhaps no other disease is the nursing of as much importance as it is in typhoid fever. In fact, in this disease, if I were to choose between medicine and a good nurse, I would take the latter. Upon the nursing depends, to a great extent, the life of the patient.

To properly care for a patient with any disease, the nurse, first of all, must understand the nature of the disease, what it is and what are its dangers.

Typhoid fever is an acute, infectious disease which has its seat of infection in the intestine where it forms ulcers. It is characterized by increased temperature, prostration and a tendency to hemorrhage and perforation.

Although the exciting cause of the disease is a

germ called Eberth's bacillus, there are several predisposing causes. If the resistance of the person has been lowered by exposure, poor food, overwork or previous diseases, he is much more liable to contract the disease than if he were strong and well. A healthy person may be able to resist the disease even though some of the germs have entered his system.

The germ or bacillus gains entrance to the body in several ways, but the principal means of ingress is through the drinking water or through the food. The former probably is the most common method. The small creeks and streams that lead into the water supply of cities frequently carry germs from some sewage that has been thrown into them. Hence the importance of having pure drinking water. The germs are found in abundance in the feces of a typhoid fever patient, and through carelessness may be carried to others.

The onset of the disease is slow. The patient complains of feeling tired with a disinclination to any exercise. He usually has a headache and nose bleed, perhaps a backache. His appetite is poor, the bowels either constipated or too loose. These symptoms may continue for a week or two before

they become so severe as to cause him to consult his physician.

The disease runs a rather typical course. The temperature ranges from 99° to 103°-105° for two or three weeks, then gradually declines. The patient is not considered well until the temperature has remained normal for ten days. This usually means that he will be confined to his bed for about six weeks.

Now if we consider that the disease really is a number of ulcers in the intestine, we can care for the patient more intelligently. Movement of any kind would tend to irritate the inflamed area; therefore the patient should lie quietly in bed. Food taken into the intestine would have to pass over the inflamed area and irritate it more; therefore it is advisable to eat as little food as possible. As solid matter would irritate more than liquid, it is deemed wise to restrict the patient to a liquid diet. As there are a number of blood vessels in the intestines, some of which are perilously near the ulcers, there is danger that the ulcer will slough into the blood vessel wall and cause a hemorrhage. Sometimes the wall is worn very thin by the ulcer and any little exertion would cause it to rupture. For

this reason, the patient should not be allowed to exert himself in any way. He should not sit up nor, in some cases, even turn over without assistance. He should not be required to raise his head to take a drink but should have the water and food given him through a tube. As the feces and other excretions contain the typhoid germs we must take care in their disposal that no one else contracts the disease through our carelessness.

Now that we have a general idea of the disease, we shall take up the special points in nursing and the measures recommended in the treatment.

Prevention. The nurse is responsible to the community for the precautions she takes against the spread of the disease; therefore it is incumbent upon her that she should not neglect any detail. No half measures should be tolerated. The germs of the disease are in all the secretions of the patient. These include the feces, the urine and the perspiration, as well as the secretions of the nose and mouth; therefore all those must be disinfected. The germs can be carried from the patient on the hands, the hair, the clothes or anything that has come in contact with the patient; therefore these also must be sterilized.

The urine of the patient may be disinfected by adding to it an equal amount of five per cent carbolic acid and mixing the two thoroughly. The urinal should be washed thoroughly after being used and a small amount of the carbolic acid allowed to remain in the vessel. The feces may be disinfected in the same manner, but they should be allowed to stand mixed with the solution for from one to three hours. If they are thrown out before this time, the germs will remain in the ground and then be washed away by the next rain and carried, perhaps, to some stream of water used for drinking purposes. There are on record a number of cases of an epidemic starting from one patient. In one case, the patient had typhoid during the late fall. The feces were thrown out on the ground. The next spring an epidemic of typhoid was started in a town two miles away. The spring rains had washed the germs down into the water used by the inhabitants of the town.

The secretions from the mouth and nose should be burned. The patient may be provided with a number of small pieces of cloth which may be burned after being used. A paper cone pinned to the side of the bed within easy reach of the pa-

tient's hand makes a good receptacle for the soiled cloths. Once or twice a day the cone should be burned and replaced by a new one. This makes it unnecessary for the nurse to handle the soiled cloths and is very convenient.

The dishes used by the patient should be kept separate, washed in a pan that is not used for other purposes, and boiled before being used by any one else after the patient is well.

As the secretions of the skin also contain the germs, the bath water should be disinfected with a little chloride of lime before being thrown out. The bed linen and night clothes of the patient should be placed in a five per cent carbolic acid solution as soon as removed from the bed, and then should be boiled thoroughly before being used again. The nurse's clothes should be treated in the same manner as the patient's clothes. The nurse also should bathe her own face and hands carefully before even taking a drink of water, thus avoiding danger of carrying into her system any germs that may have gotten on her hands and thereby carried to her lips.

Great care should be taken to prevent the access of flies to the patient's room or to any of the excretions, as these flies take upon their feet the germs

of the disease, carry them away and deposit them upon food which may be eaten by other people. Even after the patient is convalescent, he should disinfect his own urine and feces as the germs remain in the system for some weeks.

Curative Treatment. In regard to the patient himself, strict measures of hygiene should be carried out. He should be in a room by himself, far enough from the noise of the living room so he will not be disturbed, and far enough from the kitchen so that he does not get the smell of the cooking. If possible, a single bed should be provided as this makes the care of the patient much easier. He should lie in bed with, preferably, only one small pillow. His position should be changed frequently, so as to prevent bed sores. The nurse should help the patient turn. During the height of the disease, the patient is inclined to lie on his back all the time, but the nurse should help him turn on his side and then arrange pillows so that they will support his back, for the patient is too weak even to hold himself in that position. The back should be rubbed morning and evening with alcohol. If there are frequent urinations, the buttocks should be rubbed with alcohol, then castor-oil,

which treatment makes the skin impervious to moisture. Should any redness appear, a rubber air cushion should be inserted under the patient to relieve the pressure. Bed sores usually are an indication of careless nursing, although in a few cases they are unavoidable.

The mouth should be kept scrupulously clean. In this disease there is a tendency to the accumulation of a brown deposit called sordes. In order to keep this from accumulating it will be necessary to cleanse the mouth several times a day. Boric acid solution makes a good mouth wash. To this may be added a little glycerine or lemon juice.

The diet in typhoid is a debated question and each physician has his favorite list. However, nearly all agree that the diet must be liquid. Some limit this to milk and its preparations, while others allow soups, broths and, in fact, anything that will pass through a fine sieve. Whatever the diet, about four ounces should be given every two hours. Water should be given freely at all times. When a change of diet is allowed, this should be quite varied. Meat broth, cocoa, strained gruel, egg albumen, nutrient tea and coffee, lemonade and orangeade are some of the common articles allowed.

Nutrient coffee is made by adding a little strong coffee to a cup of hot milk. Nutrient tea is made in a similar manner. Albumen water is made by straining the white of an egg through a cloth and adding this to a cup of water. A little lemon juice also may be added. No solid food should be given until the temperature has remained normal ten days and then it should be added very gradually, the temperature being watched closely in the meantime. Should there be any rise in temperature, the solid food must be discontinued for a few days. While the patient is very ill he should be fed through a tube so that it will not be necessary for him to exert himself to raise his head.

The temperature is kept in check by means of baths. The daily warm sponge bath should not be neglected. At this time it is wise to change the bed clothing also. There is a typical odor to typhoid patients which necessitates the frequent changing of the clothing. Whenever the temperature is 103°, or above, the patient should be given a sponge every four hours. The warm sponge for temperature is given more commonly now than the cold sponge. In a few cases it may be necessary to give the ice pack. Whenever a sponge or pack

is given, the pulse should be watched carefully and a record made both before and after the sponge. A weak heart is a counter-indication for sponging. The temperature should be taken before the sponging is commenced and a half hour after it is finished. Plenty of water given internally helps to reduce the temperature as, also, does heat to the feet and cold to the head.

If the patient is delirious or complains of headache, a cloth wet in cold water should be placed on the head and renewed frequently.

Diarrhoea and constipation both are frequent in this disease and usually are relieved by the various enemas. Many physicians prescribe a daily soap suds or normal salt enema in order to keep the bowels free.

Tympanites or distention of the abdomen by gas in the intestines is a frequent complication. This usually can be relieved by hot turpentine stupes. Occasionally it is necessary to give a turpentine enema.

Hemorrhage from the bowels occurs in about four per cent of the cases of typhoid fever and always is a serious complication which demands prompt and active treatment. All during the ill-

ness, the patient should be required to use a bed pan and every bowel movement should be inspected carefully to determine if there has been a hemorrhage. As the hemorrhage usually occurs some little time before the blood is expelled from the rectum, it will be shown by the evidence of dark, tarry looking stools. Fresh blood would be bright red in color but blood that has remained in the intestines for a short time and been mixed with the secretions found there will not be red, so the movements must be watched for the tarry looking material. Should this be found, the doctor must be summoned immediately. In the meantime, the nurse should stop all diet and medicine, not even giving the patient a drink of water. She should remove the pillow and elevate the foot of the bed so that the patient is lying with his head lower than his feet. The patient should lie quietly on his back. The nurse should maintain a quiet, matter-of-fact manner so as not to alarm the patient, for, if the patient becomes nervous and restless, there is liable to be a second hemorrhage. The majority of patients recover after one hemorrhage but a second one makes the outcome doubtful. When the physician arrives, he probably will give the patient a

hypodermic of morphine and may order an ice coil to be applied to the abdomen. This ice coil consists of a long rubber tube arranged to form a mat about a foot in diameter. One end of the tube is placed in a bucket of ice water on a stand near the bed, the other end is allowed to hang at the side of the bed. Under this second end is placed a bucket to receive the waste water. The flow of water is regulated so that it passes through the coil very slowly and empties drop by drop into the lower bucket. This procedure keeps the coils cold all the time and is a much better arrangement than to place an ice bag on the abdomen as the latter is too heavy.

Perforation of the intestinal wall by an ulcer sometimes occurs. This allows the contents of the bowels to escape into the abdominal cavity and produce peritonitis. This complication almost always is fatal. The only chance there is of saving the life of the patient is to open the abdomen and sew up the opening into the intestines.

The period of convalescence is an important one in typhoid. A very little laxity in the rules may result in a relapse which is liable to be more serious than the first attack. One reason for this is

that the patient's strength already is nearly exhausted and he will not be able to stand another siege.

The usual cause of a relapse is the partaking of solid food. The convalescent patient always is ravenously hungry and will not use any judgment in his diet. He must be watched or he will bribe some one to give him something to eat. A banana eaten at this period has been known to result fatally.

During this period, the physician makes fewer visits and the nurse's responsibility is doubled. Great vigilance on her part is necessary as the patient will have some visitors who do not understand the dangers at this time and may be persuaded to give him some article of food that he should not have. Hemorrhage and perforation have been known to occur from eating meat after the patient's temperature has been normal for several days. The diet must remain liquid until the temperature has been normal for ten days, then solid food must be added as gradually as it is to the diet of a year old child. At first, the only solids given should be those that are easily digested, as toast, cereals, poached or soft-boiled eggs.

The temperature should be watched during this

period and any elevation must be reported immediately to the doctor even though he may have ceased his visits. The rise in temperature may be due to an error in diet, to constipation or to excitement. Too many visitors during this period is not advisable. If the patient can lead a quiet rural life, he will gain much faster than if he led a more exciting life.

CHAPTER XIV

NURSING IN PNEUMONIA

One of the most dreaded diseases of infancy and old age is pneumonia. Although it is just as common during youth and middle age, yet it is not as liable to be fatal as it is during either of the extremes of life.

There are two common forms of pneumonia,—lobar and bronchopneumonia. The former is more common with adults and the latter with children. In the former, one or more entire lobes of the lungs are involved while the remaining lobes are intact. In the latter the disease is scattered in patches throughout the lungs. Lobar pneumonia sometimes is called lung fever, while bronchopneumonia is known as lobular pneumonia and capillary bronchitis.

Lobar pneumonia usually is due to a bacterium called the pneumococcus, although it may be due directly to an injury or an irritant that causes congestion. Old people if compelled to lie in bed for

any length of time on account of an accident or an operation are liable to contract what is called static pneumonia. In the aged the circulation is so poor that the blood is liable to settle in the lower portions if the patient remains in one position for a few days. If the patient is compelled to lie on his back, the blood settles in the posterior portion of the lungs and produces a congestion which results in pneumonia.

Although the disease is due to a bacterium, yet it usually follows exposure of some sort as this decreases the resistance of the system which then is unable to throw off the poison. It is considered that the germs of this disease can be found normally in the mouths of about sixty per cent of healthy individuals, yet they are unable to enter the system until it is depleted by exposure. Sitting in wet clothing is one predisposing factor to this disease. It seldom would do any harm for a person to get thoroughly wet in the rain if, as soon as he entered the house, he would remove all clothing, take a brisk rub and put on dry, warm clothing. It is wise, also, to take a hot drink, as this stimulates the circulation and helps to prevent a chill. Pneumonia is more common in the fall and winter

months on account of the greater exposure at this time. Plethoric individuals, or those accustomed to drinking heavily, are more liable to the disease than others and the fatalities are greater. One attack of pneumonia predisposes to another, so a person who has had one attack must be especially careful about exposure. Pneumonia may follow the inhalation of gases, or other irritants. It sometimes follows the taking of an anaesthetic, as ether, but this usually is due to the fact that some of the mucus from the mouth is drawn or inspired into the lungs, so it is called inspiration pneumonia. This type frequently occurs in the newborn babe, due to mucus being inspired during birth.

Pneumonia is a common sequence of whooping cough or measles. In fact, this is one of the greatest dangers of these diseases.

Pneumonia usually is ushered in with a chill in adults and by vomiting or convulsions in babies. With adults, the chill usually occurs about three days before other symptoms and may be very severe and last a half hour.

The disease is divided into three stages. First the stage of congestion or engorgement of the lung which lasts from twelve to thirty-six hours.

The second stage is called the stage of red hepatization. During this stage, the lung becomes very solid so that no air can enter the afflicted portion. The appearance of the lung resembles that of liver and from this derives its name.

The third stage is known as that of gray hepatization or the stage of resolution. During this stage some of the solid matter becomes fluid and grayish in color. It is then thrown off by the lungs which thus are cleared gradually.

The symptoms of pneumonia are rapid respiration, the adult sometimes breathing from forty to sixty times a minute and a child even faster. The temperature is high, often being one hundred and four degrees. The pulse rate is increased accordingly and varies from one hundred and twenty to one hundred and forty, or even faster in some cases.

At first, there usually is a stabbing pain in the side due to some pleurisy, while the patient has difficulty in breathing. The face is flushed. The patient is more comfortable if lying on the affected side as this gives the well lung more chance to do its added work. Cough may be present although it does not always appear until the lung is clearing

up. The sputum is viscid, sticky and of a rusty color. The latter is due to the presence of red blood cells. On account of its tenacious quality the sputum clings to the side of the sputum cup. The urine usually is scant and highly colored.

The disease usually continues from three to eleven days and then terminates by crisis, that is rapid change. The change commonly occurs on an odd number of days; thus if it does not come on the third day it probably will not appear until the fifth day. It is considered that the earlier the crisis comes the better the chance for recovery.

When the crisis appears, if it is favorable, the patient becomes covered with a profuse perspiration, the respirations become easier and the temperature and pulse rate gradually decline. If the crisis is unfavorable, the respirations become more shallow, the lips begin to get blue, the temperature usually rises and the pulse rate becomes weaker. Death may not occur for several days if the patient has considerable reserve vitality.

The toxines (poisons) of the disease seem to have a special affinity for the heart and one of the chief dangers of the disease is the failure of the heart. In the later stages it frequently is necessary to

stimulate the heart in order to tide it over the crisis. Any added strain may prove fatal.

The treatment of the disease is rest in bed, absolutely. If the patient finds it easier to breathe when propped up on several pillows, this may be allowed. He should lie in whatever position makes breathing easiest and this position may be changed from time to time. However, he should lie as quietly as possible and not make any unnecessary movements. Sometimes a quick movement, by adding a little extra strain to the already overburdened heart, has proven fatal. The patient should be assisted in all movements, even the cup should be held for him while he is drinking. He should use a bed pan as the exertion of getting out of bed might prove fatal.

The diet should be light but nourishing. Liquid diet usually is preferable as it is easily digested and not difficult to take. It is an exertion for a person with this disease even to chew food. Egg nog may be given several times a day as it is very nourishing.

The room should be well ventilated and the air should be moist. A pan of boiling water allowed to vaporize in the room often affords considerable re-

lief. Oil of eucalyptus or turpentine sometimes is mixed in the water as the vapor from these is very soothing to the inflamed lungs. It has been said that if one wishes to kill a child with pneumonia, the most certain way is to place its bed in a corner of the room away from the window, light the gas and allow several persons in the room. The patient needs all the fresh air possible as one lung is trying to do the work of two and even under the most desirable of circumstances it will have a difficult task. For this reason the windows should be open wide and the patient placed where he will have plenty of fresh air although he should not be in a draft. As gas or oil lamps lighted in the room consume considerable oxygen, they should not be allowed except when necessary. Every extra person in the room deprives the patient of part of the oxygen and makes the air he breathes less pure; for this reason every one but the nurse should be kept out of the room. An open grate fire improves the air in the room as it creates a circulation. A furnace heated room is a poor place for a person with this disease.

The bowels should be kept open with enemata as it usually is not desirable to give laxatives. The

urine should be measured every day as there is some diminution in the amount always and it may be necessary to give a diuretic (medicine to increase the action of the kidneys).

The patient should be given a careful sponge bath every morning, avoiding any exposure. Usually it is better to bathe the various parts under cover. Sponging for temperature may be ordered but not as frequently as in typhoid fever.

The mouth should be kept cleaned with a mild antiseptic solution and the patient provided with small pieces of cloth in which to expectorate. A paper cone should be placed in a convenient place to receive these. They never should be allowed to lie on the bed and should be burned as soon as possible.

Sleeplessness is quite common and this sometimes may be relieved by an ice bag to the head, a hot drink or a hot mustard foot bath. Pain in the side usually can be relieved by the application of the ice bag or of a mustard plaster.

The treatment varies in regard to external applications. Usually a cotton jacket is ordered and some application is made over the affected area. Turpentine and oil or camphorated oil are two com-

mon home remedies. Other physicians prefer to have a poultice applied. This sometimes is one of the home made varieties and sometimes one of the various mud poultices.

After a favorable crisis the recovery usually is quite rapid, but if the cough persists for any length of time the patient should have his lungs thoroughly examined again as tuberculosis not uncommonly follows pneumonia.

CHAPTER XV

INFANTILE PARALYSIS

During the last few years the epidemics of acute poliomyelitis or infantile paralysis have become so common as to cause considerable alarm. Parents are anxious to learn how to avoid it while scientific men are trying to find a cure, as well as a means of prevention. So far their efforts have not been attended with any measure of success. The mode of contracting the disease is not known, but it is supposed to be of an infectious nature as it occurs in epidemics.

The greater proportion of the cases develop before the fifth year. Boys are a little more frequently affected than girls. The majority of the cases occur during the second year of the child's life. On this account teething has been ascribed as one of the causes. The disease is more common during the summer months, although it may occur at any time of the year. It sometimes follows some other disease, as measles, scarlet fever, but

in the majority of cases the patient is in the best of health when attacked.

A frequent form of the onset of this disease is for an apparently well child to be taken quite suddenly with vomiting, pains in the legs and general sensitiveness to the touch. The temperature may arise to one hundred and one or one hundred and three degrees F. These symptoms continue from one to three days before the paralysis is noticed. In some other cases a child has gone to bed at night apparently as well as ever, has been a little restless during the night and awakened in the morning with some portion of the body paralyzed. In one or two cases the child was walking along the street when the paralysis came on suddenly and the child was unable to walk home.

In some cases there are pains in the back, in the muscles of the extremities and along the spinal nerves. After the paralysis appears there seems to be little change in the child's condition for a period of from one to three weeks, then it begins to improve gradually for two or three months, then it again seems to be at a standstill, and the paralysis that remains then probably will be permanent. The affected limb then begins to shrink in size and soon

is considerable smaller than the other. It does not grow in length as fast as its fellow so that in a few years there is a marked difference in the length of the two limbs.

In the majority of cases only one lower extremity is involved although both lower limbs or one lower limb and the arm on the same side may be affected. The arms seldom are affected unless one leg is also. Most children with paralysis of only one leg are able to walk alone, but have not the power of lifting their toes. The affected foot drops down and the toes turn to one side.

The general symptoms of the onset of this disease are not characteristic and no positive diagnosis can be made until the paralysis sets in. As the mode of infection is not known it is impossible to take measures to avoid the contagion. However, it is well to keep a child affected with this disease away from other children during the early stages.

There is little danger to life with this disease. The most important question is whether there is to be a permanent paralysis or not. Some cases recover entirely, but these seem to be cases that have a very light attack.

One chief aim of the treatment is to prevent de-

formity. Many of the deformities common might have been avoided if the limbs had been relaxed every day and not allowed to remain in one position for many hours at a time. The value of water to relax muscles is shown in the treatment of infantile paralysis and other diseases in which the muscles are more or less contracted. Exercise is necessary in the treatment of infantile paralysis. The child should be placed in a warm bath. The heat relaxes the muscles which are drawn up, and some movement will be found possible the first time. The rigid muscles which are drawing the limbs out of place relax with the heat and moisture and can be straightened to a more natural position. At first, a hot bath should be given three times a day. The body should be immersed completely, but the head should be supported by the nurse's hand, so that the child never becomes frightened by getting its face in the water. Often it is better to have only a small amount of water in the tub at first, then after the child is in the bath gradually add water until the entire body is covered. While in the bath, the limbs can be straightened for a few seconds at a time even though they immediately return to their former position. After a few days,

the child may make some voluntary movements. In order to encourage this, it is well to place in the water some of the floating toys, as ships, ducks, fish and frogs. There are numerous toys that will float on the water which can be purchased for as low as five cents apiece. The child will reach for these floating objects and make several desirable movements in doing so. An older child will enjoy having a pair of water wings on which to rest the head. This will relieve the strain on the nurse's arm. All the time the child is in the bath, the nurse should massage the limbs gently. The child should remain in the bath about fifteen minutes at a time. When through, it should be lifted out into a dry blanket and dried quickly so as to avoid a chill. If it then is given a drink of milk or other light food, it probably will drop to sleep and remain so for some time. This is very desirable for it is best for the child to be as quiet as possible and to avoid all nervous excitement.

Another beneficial measure is to have the child as near the ground as possible so as to get the magnetism of the earth. Whenever the sun is not too hot, he should be allowed to play and lie in the sun so as to get a sun bath. This treatment is similar to

that used in the case of Sir Walter Scott, who had infantile paralysis when he was eighteen months old. His grandfather, who was an eminent physician of that time, directed the treatment. As soon as the first stage of the disease was over, he sent the child to his farm in Scotland where he was placed under the watchful care of an old shepherd, who carried him daily out among the rocks and crags. He was left to lie on the ground and soon began to roll and finally to walk and climb about. He says, "I, who in a city probably had been condemned to hopeless decrepitude, now was a healthy, high-spirited and, my lameness aside, a sturdy child." Among other exercises beneficial to a child is swimming, so if the afflicted child can be taken to the shores of a shallow lake where he can swim daily, besides climbing up the banks, he will be benefited.

The recent reports of research show that the infection may be carried in the nasal passages; therefore it is well to spray the nose and throat of a child afflicted with a mild antiseptic solution. Also, if the disease has made its appearance in the neighborhood, it is well to spray the throat and nose of all children, as this may help to avoid the infection. It has been found that the common house fly

harbors the germs of the disease in its body for several hours, although it has not been proven that it carried it to people. However, it is a wise precaution to rid the house of these dirty insects who are known to carry other diseases.

CHAPTER XVI

CEREBROSPINAL MENINGITIS

As much dreaded as infantile paralysis is another disease, which has a similar onset and which may result in paralysis, known as cerebrospinal meningitis. This disease is due to a germ, called the diplococcus intracellularis, which is not very communicable, although the disease occurs in epidemics. The epidemics are more common in winter and early spring and may occur in quite isolated localities.

The onset of the disease usually is sudden, the child being taken with a chill, followed by a severe headache, vomiting and convulsions. The temperature rises to about one hundred and two degrees F., the neck becomes stiff, the body rigid and bent backward so that a child lying on its back rests almost entirely on its head and heels, the center of the body being arched. The eyes may develop strabismus (cross eyes) and photophobia, or dread of light, usually occurs.

There are two forms of the disease, one the hyper-

acute form in which death occurs in from twelve to thirty-six hours. The following is an illustration of this: A little girl of ten years was well enough at two P. M. to carry a bundle of clothes several blocks. Returning home, she complained of intense headache, vomited frequently, and was so weak she had to go to bed. In a few hours she became unconscious with a high fever and died at eleven P. M.

The usual form of the disease is not so severe as the case described. In the more severe form there usually is an eruption which resembles flea bites and has given the disease the name of spotted fever. These eruptions may occur in the less severe form but are not common. The duration of the usual form is from three to six weeks. During this time the symptoms vary in severity. At times the child may seem much better, then the next day be worse than ever. There may be delirium at times. There are numerous attacks of vomiting. Sometimes there is considerable difficulty in feeding. There usually is rapid loss in weight and the prostration increases. In cases that get well, the temperature gradually drops, the mind becomes clear and the other symptoms gradually disappear. In fatal cases, the patient usually passes into a deep

stupor, the breathing becomes irregular, the abdomen sunken and death occurs from exhaustion.

During the course of the disease, one of the most striking symptoms is the pain in the back of the neck and along the spine. The body is so sensitive that any movement causes pain and the patient cries out in agony.

In cases that recover, it unfortunately is common that some defect remains. It is not uncommon for the child to be left mentally deficient. Sometimes this is so slight as not to be noticed for months, but as the child grows older it becomes more noticeable. There also may follow various types of paralysis, some of which are only temporary while others are permanent. Of the special senses, deafness is quite common, while the power of speech also may be lost. Nearly seventy per cent of the cases end fatally.

The treatment has been highly unsatisfactory, as is proven by the large death rate. All measures possible to make the patient comfortable, to keep up the nourishment of the body and to quiet the irritated nervous system should be employed. Among others, ice to the back of the head and along the spine has proven to be agreeable and soothing to the

patient. Warm sponge or tub baths sometimes prove very soothing and help to relax the muscles. The patient should be kept in a quiet, darkened room, away from the remainder of the family. He should be urged to take all nourishment possible.

When there is paralysis following the disease, the same treatment as that given for infantile paralysis often gives good results. As yet, no way has been discovered to prevent the disease nor its disastrous consequences.

CHAPTER XVII

NURSING IN CONTAGIOUS DISEASES

THE nursing in contagious diseases presents some requirements that are not found in other diseases. Not only must the patient be considered but the remaining members of the family must be protected from the contagion. The nurse finds that she is much more confined and that she must take precautions to protect herself from the disease. For the trained nurse there is one compensation: a nurse usually receives about ten dollars a week more when caring for a contagious case than when nursing any other case. This is only just, on account of the extra work and close hours required.

Isolation. In any contagious disease, the patient should be isolated and no one allowed in the room except the nurse and the doctor. The room preferably is at the top of the house and separated as far as possible from the remainder of the rooms. A sheet moistened with some disinfectant solution, as chloride of lime, should be hung in the doorway

leading from the room. The room should be well ventilated, as fresh air is a great aid in recovery.

Disinfection During Illness. All secretions, as that expelled when the patient coughs, should be burned. It is better to have the patient expectorate in small pieces of cloth which may be burned than to use a sputum cup. The urine, the feces and even the water in which the patient is bathed should be disinfected before disposal so as to prevent the germs of the disease being scattered about. Chloride of lime or a five per cent carbolic acid solution may be used for this purpose. No articles should be carried from the sick room to other parts of the house. The patient should have separate dishes and these may be washed in the room. They never should be washed with the family dishes. The bed linen and night clothes should be allowed to soak several hours in a five per cent carbolic acid solution before being sent to the laundry. Then they should be boiled thoroughly and dried out of doors.

Exposing Children to Disease. There is a common superstition that all children must have all the so-called children's diseases and that the sooner they are over with the better, for then all worry is past.

Some mothers have been known to deliberately expose their children to the contagion of measles or whooping cough. Such a proceeding should be condemned in no uncertain language. It is no more necessary for all children to have these diseases than it is for all adults to have smallpox or typhoid fever. Indeed, the after effects of these diseases may not be nearly as serious as those from a seemingly mild attack of measles.

When to Call the Doctor. As so many of the diseases of children commence with similar symptoms, as cough, vomiting and fever, it is better to call a physician at the commencement because in many cases the severity of the disease may be lessened by early treatment. Many deaths are due to the fact that the child was not considered ill and a doctor was not called until a few hours before death, when it was too late.

Measles. This apparently mild disease so often is regarded more in the light of a joke that it does not receive proper attention. In many of the smaller towns, no quarantine is enforced and children are allowed to return to school before they have fairly recovered from the disease. As a result, the other children in the room are exposed to

the contagion. This should not be allowed, for the after effects of measles frequently are serious.

Measles is an extremely contagious disease. The contagion may be present in any of the secretions of the patient. It may be carried in the clothes of a third person. One attack usually protects from subsequent attacks although recurrences have been known in the same person. However, the second attack usually is very mild.

The disease appears from seven to fourteen days after exposure. It is ushered in by a feverish cold; the eyes are watery, reddened and very sensitive to light. The nose "runs," there is loss of appetite and general feeling of chilliness and disinclination to exertion. The fever gradually rises to about one hundred and two degrees F. and may go one or two degrees higher while the eruption is appearing.

The eruption (breaking out) makes its appearance on the fourth day, usually occurring first on the forehead, then spreading to the remainder of the face and other parts of the body. At first this resembles small red papules or pimples. Later the face becomes blotchy-looking and swollen. The papules appear to be raised slightly. At times there

are hemorrhages into the skin producing what is known as " black measles." Desquamation, or peeling, usually commences at the end of the first week. It appears fine and bran like. About the time the eruption appears on the face small bluish white spots surrounded by a red area appear on the mucous membrane of the cheeks and lips. These are called " Koplik's sign " and are regarded as positive evidence of measles.

The complications of measles are more serious than the disease. Bronchopneumonia not infrequently occurs. Otitis media or inflammation of the middle ear is not uncommon. Following measles tuberculosis may make its appearance.

The child with measles should be kept in bed for about a week and quarantined for four weeks. Milk, broth, gruel and eggs should be the chief articles of diet. The body should be rubbed with oil or fresh lard every day to allay the itching and also to prevent the scattering of the desquamated skin. While the eyes are sensitive to light, the child should be kept in a darkened room or should wear dark glasses. The eyes should be cleansed frequently with a solution of boric acid. If the rash is delayed, hot drinks and hot baths may be

given. A dry cough may be relieved by keeping a steaming tea-kettle in the room.

Scarlet Fever. How frequently we hear a person say, "I have had trouble with my ear ever since I had scarlet fever," or "I am unable to do any hard work since I had scarlet fever. My heart troubles me so much at times." These are very common experiences and the worst phase of them is that many of them might have been avoided by careful management or nursing.

The most mild case of scarlet fever may result in very grave complications or sequelae. For this reason, the mild cases must be as carefully looked after as are the severe cases.

The nurse who takes care of a scarlet fever case must resign herself to be isolated for at least six weeks. During that period she will be alone with her patient most of the time, and must be prepared not only to nurse the patient during the height of the disease but, also, to entertain him during convalescence. The latter period is one of the most trying with a restless child and the nurse with ingenuity enough to devise a variety of entertainment is best fitted for this class of cases.

The specific cause of scarlet fever is unknown,

that is, the bacterium that causes the disease has not been discovered as yet. However, scarlet fever is known to be highly contagious, usually occurring in epidemics. The disease is more common in the fall and early winter months, although it may appear at any time. The contagious element is very tenacious and has been known to exist in clothing for twenty years.

The onset of this disease is sudden. A child who has seemed to be perfectly well may begin to vomit suddenly without any apparent cause. If the child is old enough, he may complain of a severe headache. An examination will reveal that the throat and posterior part of the mouth are fiery red. The temperature is quite high and the pulse rate increased.

The second day the rash appears, first on the neck and chest and then spreading to other parts of the body. The rash is punctate, that is, dotted with points. The tongue is coated white with enlarged papilla giving it the typical appearance known as the "strawberry tongue." As soon as the rash appears, the temperature begins to drop. The rash will disappear upon pressure, leaving a white line. The rash lasts from five to seven days. As soon as

the rash begins to disappear, the desquamation, or "peeling," begins. This may last from two to six weeks.

This desquamated skin carries the contagion of the disease. This may be carried to others on the clothing of people who have been near the patient. It may be carried in the food, especially milk. Epidemics have been traced to dairies where a single case had contaminated the milk.

There are three forms of scarlet fever, the simple, the anginoid, and the malignant. The latter is so severe that death has been known to occur within twenty-four hours, and even before the appearance of the rash.

In the treatment of this disease, the first requirement is isolation. A well ventilated, light, airy room should be chosen. This should be stripped of all except the necessary articles of furniture, even the rugs. The patient and nurse should remain in this room and no visitors should be allowed except the physician. In the doorway leading from this room to other parts of the house, there should be hung a sheet which should be kept moistened with an antiseptic solution, as a solution of chloride of lime or a five per cent carbolic acid solution.

Arrangements should be made so that the meals can be brought to the door of the room and the waste taken away. It is not well for the nurse to use the same bath room as is used by other members of the family, as she may scatter the contagion from her clothes. Separate dishes should be set aside for the patient and these should not be placed with the dishes used by the family. The night gowns and bed linen used by the patient and the nurse should be put to soak in a five per cent solution of carbolic acid before being removed from the room. They should be boiled then but should not be washed with the family washing nor sent to a public laundry.

The diet of a patient should be light, but nourishing. During the height of the disease, the diet should be liquid and, even after the patient is apparently well, very little meat should be allowed for several weeks.

Besides the general care of the patient and the special directions given by the physician, the nurse should rub the patient's entire body with olive oil or lard morning and evening. This oiling tends to prevent the severe itching which sometimes is almost intolerable after desquamation commences.

It also keeps the skin softened and helps to prevent the desquamated skin from floating about on the air.

The patient should remain in bed until all evidences of the rash have disappeared and afterwards if there are any complications.

The complications and sequelae may be numerous and severe. A false membrane may form which resembles that of diphtheria and may cause unnecessary alarm.

Malignant, black or bloody scarlet fever is a very severe form. In this form, there are hemorrhages into the skin. These form black spots which give the disease the characteristic name.

Cervical adenitis, or enlargement of the glands of the neck, is common. As a rule, these return to normal in a few days but, in some cases, may break down, leaving large ulcers which require considerable time to heal.

Nephritis, or inflammation of the kidneys, is one of the most common sequelae. It may not appear until the child is apparently well and has been playing with other children for several days. It frequently is very severe and may cause death. All during the course of the disease, the urine should

be watched closely. It should be measured every day even after the child is well enough to be playing out of doors. The danger is not past for several weeks. If there is any diminution of the quantity passed in twenty-four hours, this should be reported to the physician at once.

Otitis media, or inflammation of the middle ear, is not uncommon. It is due to an infection through the Eustachian tubes. This usually can be avoided by spraying the mouth, throat and nose several times a day with a mild antiseptic solution. The child should not be allowed to blow his nose severely, as this may force some of the infected material from the throat into the passages to the ears.

The toxines of this disease seem to have an affinity for the heart muscles and may injure them severely. For this reason, the patient should remain in bed even though the attack is mild. Remaining quietly in bed relieves the strain on the heart and makes it better able to resist the toxines. If the pulse should become rapid or irregular at any time, the attention of the physician should be called to this condition.

Headache and sleeplessness often can be relieved

by a warm sponge bath and a cold cloth to the head. Pain in the throat may be relieved by an icebag or hot external applications.

The patient should be kept quarantined until all evidences of desquamation have disappeared. The palms of the hands and the soles of the feet are the last to peel usually. It also is advisable to keep the patient isolated until all discharges have ceased, as these may carry the contagion.

After the patient is pronounced ready to be let out of quarantine, he should be given a full bath (including a shampoo of the hair) and be dressed in clean clothing that has not been in the sick room. The nurse should take a similar bath and change of clothing. The room should be fumigated thoroughly. Everything possible should be boiled. The woodwork should be washed with a five per cent carbolic solution and the entire room and contents fumigated with formaldehyd. During this process all dresser drawers and closet doors should remain open, the bed clothing should be hung about the room in such a manner that the gas will reach every portion. The doors and windows should be calked carefully and the room remain closed for at least twenty-four hours. Books are best burned

as it is hard to fumigate them thoroughly. If there is any question as to whether anything has been fumigated thoroughly, it had better be burned as the loss of anything is better than the risk of a life.

The nurse, during the course of the disease, should take precautions that she should not contract the disease. She should spray her throat, mouth and nose with a mild antiseptic solution several times a day and should take frequent baths and change her clothing. She should keep the sick room well ventilated and be at the open window as much as possible. She should arrange her bed so that the patient is not between her and the open window.

The nurse who is willing and fitted for this class of cases is rare and in demand. Many good nurses are afraid of contracting the disease and so refuse such cases, others are not fitted to care for the child during convalescence as they have not the gift nor training that fits them to entertain the peevish child.

Diphtheria. This is an acute contagious disease accompanied by moderate fever, great prostration and the formation of a false membrane upon certain parts, especially the throat and adjacent parts.

The exciting cause is the Klebs-Loffler bacillus, although the contraction of the disease is favored by damp houses and unhygienic surroundings.

Three-fourths of the cases occur in children before the tenth year. The disease commonly begins with fever, sore throat and a general tired feeling. The fever, as a rule, is not very high but the prostration is great. The child complains of difficulty in swallowing. Examination shows the presence of a false membrane, a grayish white coat which when stripped off leaves a raw bleeding surface.

Absolute rest must be enforced during the course of this disease. It is better that the atmosphere be kept moist by generating steam in a kettle or by slaking quicklime in the room. The mortality from this disease has decreased wonderfully since the introduction of antitoxin. The best results are obtained when this is given in the early stages of the disease. Aside from this, stimulation may be necessary at times. One great danger is heart failure. The danger is not past when the child is apparently well. In many cases, anemia, or lack of good blood, follows this disease and must be treated by tonics, fresh air and nourishing food. Paralysis of some portion of the body sometimes follows, but

this usually disappears within a few months. The voice may be lost entirely for a time, but as the child increases in strength, it usually returns.

Whooping Cough. Spring housecleaning and whooping cough seem to be boon companions. Whenever moving days and housecleaning come, the lay of the whoop is heard on all sides. We might wonder at the coincidence if we did not know that whooping cough was a contagious disease and that the germs of the disease would live from year to year. They find lodging places in the rugs, the curtains and the furniture where they remain in repose until disturbed from their rest by the zealous housewife. As they are driven out of their dwelling they ride on air currents until finally they find a resting place in some little child's air passages. Here they begin to grow and produce various symptoms.

Probably the first symptom noticed by the mother is a slight hacking cough. This gradually is prolonged and increases in severity. It does not respond to the ordinary home remedies. The child's sleep is disturbed at night, for the paroxysms of coughing seem to be worse when the child is lying down. The general health is not much impaired

although a paroxysm of coughing may be followed by vomiting. Usually the typical whoop is not heard until about three weeks. This is a long drawn, shrill, whooping inspiration due to a spasmodic closure of the glottis. The number of paroxysms varies from twelve to fifty in twenty-four hours. The duration of this stage of whooping is about three weeks, but the cough may continue for some time afterwards. The entire course of the disease extends over a period from a few weeks to several months. The chief dangers are from the complications or sequelae. Pneumonia or tuberculosis may be the closing chapters of this disease. Indeed the latter especially is a danger for it makes its appearance so insidiously that the parents do not realize that another disease has appeared until it is too late to save the child's life.

The treatment consists first in isolation and quarantine to protect others, followed by thorough disinfection so that the germs may not remain until the next year.

A tight binder pinned around the abdomen will be found to lessen the severity of the paroxysms of coughing, and, also, will tend to prevent vomiting.

Fresh air, sunlight and protection from exposure

to inclement weather are necessary. The room should be well ventilated, for rebreathing of the infected air prolongs the duration of the disease. In the later stages, sea air is especially beneficial. If the coughing period is prolonged, the lungs should be tested at intervals so that tuberculosis may not become established without the knowledge of the parents.

The diet should be light and nutritious. On account of the vomiting, it is better to feed a small amount at frequent intervals instead of limiting the child to the regular meals.

In the early stages the severity may be lessened by spraying the mouth, throat and nose with a mild antiseptic solution. This should be done several times a day.

Mumps. One of the most painful disorders of childhood is mumps. This is an acute, contagious disease the chief characteristic of which is the inflammation of the parotid and, perhaps, other salivary glands.

The mother may notice that the child's neck appears to be swollen. This swelling is below and in front of the ear, is pyriform in shape and has a doughy feel. An older child may complain of an

inability to swallow, especially acid food giving excruciating pain. The jaw is moved with difficulty. The swelling may be on one or both sides. Usually it appears on one side first and then a few days later on the other. The mouth is dry as the saliva usually is lessened. There may have been symptoms previous to the swelling, such as headache, vomiting or pains in the back and limbs.

Inquiry usually reveals that the child has been exposed to the mumps one to three weeks previously. The disease usually is acquired through direct contact and probably from the secretions of the salivary and parotid glands. It is contagious from the beginning of the symptoms and for about three weeks after the swelling first appears. For this reason the patient should be isolated and not allowed to come in contact with other children. The disease very rarely is fatal although there may be death from complications if the patient is not given good care. One attack confers immunity from later exposures.

The patient should be kept in bed and the chief treatment should be measures to relieve the aching pain. One of the quickest and most effective remedies is hot fomentations. The skin over the affected

area should be rubbed with a mixture of turpentine and olive oil (one part of turpentine to about eight of olive oil), then flannel cloths should be wrung out of hot water and applied to the parts. Over these should be placed a dry cloth and the whole held in place by bandages. The hot, moist heat seems to penetrate better than dry heat and so is more effective. Flaxseed, or linseed, meal poultices are excellent. If a little olive oil is added after the mush is prepared, the poultice will not become hard and dry so easily. Hot salt bags, or hot water bags may be used if it is impossible to apply the hot moist heat, in fact, any hot application affords considerable relief.

The diet should be light and nourishing. As it often is painful and difficult to chew the food, it is better to give a liquid diet for a few days. This may be taken through a tube.

The bowels should be kept open. A warm bath or alcohol rub morning and evening is very refreshing and restful, and relieves the aching limbs.

In young children there seldom are any serious complications, as there are in older people. In a few cases deafness has followed but this is not common. In older people, especially with adoles-

cent boys, there is danger of extension to the testicles. This may result in sterility.

Disinfection in all Contagious Diseases. After a child has recovered, it is necessary to prepare the room so that it may be used again by the family. As a rule, quarantine should be continued until all desquamation has ceased. The palms of the hands and the soles of the feet usually are the last to peel so these should be examined. If the peeling has ceased but there is a discharge from the nose or ears, there still is danger. When the quarantine is to be raised, the patient should be given a full bath, the hair washed and clean clothing, which has not been in the sick room, provided. The room should be made air tight by sealing all openings around the windows and doors. The closet doors should be opened, as well as the dresser drawers. The bed clothing should be spread around the room and formaldehyd gas set free in the room. This may be done by different methods. Regular formaldehyd generators frequently are used. In some cases, wet sheets are sprinkled with formalin, which is a forty per cent solution of formaldehyd, and hung about the room. The room then should be left closed for twenty-four hours.

All books and papers that have been in the sick room are better burned as it is difficult to disinfect them sufficiently. Everything possible should be boiled. All toys should be burned or boiled. When the child is recovering from a contagious disease, there is a period when he feels well but must be quarantined. This period is one of the most trying for the nurse who must devise amusement for the little one. The making of paper dolls and dresses is one of the most desirable occupations, for these can be destroyed afterwards. It is better that the child should not know of the destruction of the toys, for she will not understand the necessity of this act, and will have a feeling of resentment. New dolls and toys can be substituted for the old ones, and the child probably will not notice the difference.

Precautions for the Nurse. The nurse should take precautions to avoid contracting the disease. She should sleep near an open window, never with the patient between her and the window. She should be out of doors as much as possible when off duty. She should bathe and change her clothing frequently and spray her mouth, throat and nose with an antiseptic solution. Her dishes should be

separate from those used by the patient. After the patient is well she should bathe, wash her hair and put on clean clothing.

PART III

MINOR DISORDERS, AND ACCIDENTS

CHAPTER XVIII

TONSILITIS, SORE THROAT AND COLDS

TONSILITIS. Seldom a week in winter goes by without some person in every large office being confined at home with tonsilitis. This trouble seems to be more particularly common in youth, although it may occur at any age. Those who have a predisposition to rheumatism are especially prone to be attacked. Exposure to wet and cold usually is the exciting cause, and such exposure is especially effective if the system is debilitated or the throat is congested from improper use or over use of the voice. For this reason there are apparent epidemics after many large and exciting football games. Lack of ventilation, either during the day or night, may be another factor in the cause.

The chief symptoms are chilliness, headache and

backache, high fever, pain in the throat, difficulty in swallowing and pain and swelling behind the angles of the jaw. In the simple or catarrhal form the tonsils are swollen uniformly and covered with a tenacious mucus. In the suppurative form, which commonly is called *quinsy,* the tonsils are extremely swollen, often so much that they almost meet, the pain is intense and of a throbbing character. The voice is lost and breathing is difficult. One tonsil soon becomes larger than the other, fluctuates (wave-like motion because of fluid formed in the gland), a yellow spot appears which, if not opened, breaks of its own accord in time and discharges bloody looking pus. The relief is almost instantaneous but complete recovery often is slow.

In many instances a severe case may be avoided by prompt attention to the first symptoms. One who is subject to tonsilitis should be especially careful about exposure, and if by chance he does become chilled should take a hot bath, hot drink and go to bed. At the first appearance of any irritation of the throat some local application should be used. In many cases a cold compress applied at night will so relieve the congestion that no further results will appear. For such a compress a towel wrung out

of cold water should be put around the neck and over this a dry towel.

There are many local applications that afford considerable relief in tonsilitis. One of the most convenient, and also most effective, is turpentine and oil or lard. One part of turpentine to eight of olive oil will not cause a blister. This should be heated and then rubbed in well and covered with absorbent cotton or a soft flannel cloth. Hot vinegar is another excellent application. Cloths wrung out of hot water afford considerable relief. These may be applied over the turpentine and oil.

Spraying or gargling the throat with some mild antiseptic is of decided benefit. Diluted alcohol makes an excellent gargle.

The Prevention of Colds. It has been said that a clean person never has a cold. When we consider cleanliness as relating to the internal body as well as to the external this may be given as a fact. Certainly one whose intestinal tract is not clogged is less liable to take cold than one whose tract contains all manner of fermenting material. One great way to avoid colds is to keep the bowels open at all seasons of the year. Never let a day go by without an evacuation. At the first suggestion of a cold

clean out and keep clean. It is not uncommon for a patient to tell the physician that she has not had a bowel movement for five, six or even seven days. No wonder the system became so poisoned with its own waste material that disease germs found it easy to do their work!

Another preventive of colds is fresh air laden with oxygen. When the cold days come the tendency is to shut out all the cold air and, incidentally, all the fresh air. As a consequence, the living and office rooms become hot and stuffy. Disease germs thrive well under these conditions and colds follow readily. So, to avoid colds, keep the rooms well ventilated even during the coldest weather. It even is better to shiver a little than to breathe impure air.

To avoid colds, take some exercise in the open air every day. No matter what the weather, one will be benefited by a brisk walk. Dress for the day and walk quickly; do not loiter. The movement of walking stirs up the sluggish circulation and helps the body to throw off all impurities. Even though the day be dark, dreary, perhaps rainy, the exercise will be beneficial. Colds usually are not contracted from getting wet but from sitting in the wet garments after going indoors.

Keep the pores of the skin clean by frequent bathing, for when the pores of the skin become clogged they cannot do their work and colds result.

Mouth breathing is one cause of colds. Nature did not intend that one should breathe through the mouth. The nose was so constructed that cold air passing through it would become warmed before reaching the lungs. Besides, the mucous membrane of the nose is so planned that it acts as a sieve and will strain out the particles of dust and irritating material from the air. The mouth is not so constructed and the air breathed in through the mouth reaches the lungs almost as cold and dust laden as when it entered the mouth. This cold air taken into the lungs may chill them suddenly and produce a congestion.

How to Cure a Cold. The cures for a cold are almost as innumerable as the sands of the sea. Every one has a seemingly different prescription. A person afflicted with a cold can go through the day and meet a dozen persons each of whom will offer a different remedy in all good faith. Perhaps faith has considerable to do with it, for what acts like magic with one person may have no effect upon his neighbor.

The cure of a cold can be summed up in the one word eliminate. Eliminate by the skin, by the lungs, by the kidneys and by the intestines.

To produce elimination by the intestines it usually is necessary to take a laxative, for one is liable to be constipated when taking cold. At this time all the secretions of the body are more or less locked up and unable to do their work, therefore it frequently is necessary to aid them. It matters little what form of laxative is taken so that the bowels are well cleaned out.

Elimination by the skin is produced by some remedy that induces sweating. The old-fashioned plan of taking a hot mustard foot-bath, a drink of hot lemonade and going to bed with extra covering is not outdone by any of the more modern remedies. The good old-fashioned sweat taken in this way often will throw off a severe cold. Care must be taken not to chill in the morning. It is better to throw off the coverings gradually, then take an alcohol rub as soon as out of bed.

Elimination by the kidneys is produced by drinking plenty of water. The hot lemonade also has some effect here and is much better than hot water.

Elimination by the lungs is vastly important. In

the early stages many a cold may be cut short by taking long draughts of pure air. Breathe deeply and hold the breath for a few seconds. At night when taking the sweat be sure there is plenty of fresh air in the room. Do not breathe through the mouth unless it is unavoidable. Force the air to come through the nose. Keep the nasal passages clear by spraying the nose with some mild antiseptic solution. The same effect was derived from the older method of "snuffing" salty water up the nose. The virtue of nearly all the inhalations is that they keep the air passages free so that fresh air can enter the lungs.

Above all, in the treatment of colds do not "dope up" with all varieties of remedies. The majority of the patent "cold cures" are composed of a laxative and some drug to induce perspiration. Unfortunately the majority contain some harmful drug, as phenacetine or acetanalid. Watch out for these drugs on the label, for they are depressing to the heart and may cause considerable damage if used freely. The more simple the remedy the better, for the after effects of many drugs are more harmful than the conditions they cure.

CHAPTER XIX

TUBERCULOSIS AND THE CARE OF THE AIR PASSAGES

Of all diseases known to man the most deadly and most widely spread is tuberculosis, or consumption, as it commonly is called. As has been correctly stated, other diseases have caused more dismay, more panic, and, occasionally, for short periods, even wider destruction, but tuberculosis has been the most constant and the most pestilential of all; the worst scourge of mankind.

Tuberculosis kills men and women in their prime. Its victims are mostly of the active working age. They die during their period of greatest usefulness. Many leave families to be supported by others. During the first two decades of a man's life, he is an expense to his parents and to the state. It is expected that he will repay this during the next two decades. But tuberculosis deprives the state of these workers just as they have acquired independence.

Fully *one-seventh of all mankind die from this*

disease. It is estimated that one million lives are lost by this disease annually throughout Europe and that one hundred and fifty thousand persons die each year in the United States of some form of tuberculosis.

Tuberculosis is a communicable disease caused by a germ or bacillus. It is not inherited as was once thought. The tubercular mother may indeed bequeath to her child a weak constitution which causes it to be a ready prey to the germ of this disease, but the disease itself usually is contracted by association with some one afflicted with the disease. Thus a daughter might easily contract the disease from her mother by her constant association. She even may contract the disease years before she is aware of it. The germs may be in the system but may not become active until some indiscretion, overwork or exposure causes the body to be a good field for the cultivation of the germs. Then the disease takes on a more active form, may even be what is termed "quick consumption."

Tuberculosis is so prevalent that it is estimated that one in every twenty has the disease in some form or other. It may be that the only manifestation of the disease is in enlarged glands of the neck,

— tubercular glands. Frequently these are neglected, with the result that the disease spreads to other parts of the body.

Any organ or tissue of the body may be affected with tuberculosis. The form most commonly recognized is tuberculosis of the lungs, or consumption, as it commonly is called. However, there may be tuberculosis of the bones. "Hip disease" is tuberculosis of the hip. "Potts' Disease" is tuberculosis of the spine. This is the form of the disease which not unfrequently attacks young children and, if neglected, causes them to grow up "hunchbacks." During the process of this disease a part of the structure of the spine is destroyed so that it is bent out of shape and allows the body to become deformed.

"Lupus" is tuberculosis of the skin. There may be tuberculosis of the intestines and of various other vital organs. Our grandmothers used to speak of "scrofula" in children. This was shown by the enlarged glands of the neck and the child was considered delicate, but these glands were not considered related to the dread disease consumption, yet now we know that these glands are an indication of tuberculosis.

Tuberculosis is a *curable disease,* but the *best cure* is *prevention.* The disease makes its approach so insidiously that a great many do not realize its existence until too late. It is a very common sequela for in no other way is it possible to tell if the child should be examined by a competent physician at least every two weeks if the cough continues long, for in no other way is it possible to tell if the child still is coughing from whooping cough or if tuberculosis has become enthroned.

Girls working in offices and stores and men working in factories frequently contract tuberculosis from some fellow worker and do not realize the fact until the disease has made considerable progress. If a person is losing weight, feels tired all the time and has little appetite, he should have his lungs examined even though there is no noticeable cough. If taken in this early stage, tuberculosis can be cured readily.

The great preventive, as well as cure, of tuberculosis is *fresh air both day and night.*

The disease is not contracted directly from another person, so a consumptive need not be shunned as would a smallpox patient. The disease germ is thrown into the air with the sputum during cough or expectoration; it then becomes dried and is distrib-

uted through the air. Hence the reason for state laws against spitting in public places. If the sputum of every tubercular patient could be destroyed there would be few germs to be distributed around and the disease soon would become a memory. The tubercular patient will be of little menace to his associates if he uses a pocket sputum cup or paper napkins in which to expectorate, either of which may be burned. He also should hold a paper napkin in front of his face when coughing. The use of handkerchiefs for this purpose is not advised as it is hard to disinfect them and the one who washes them is exposed to the danger.

Sunlight destroys the germs; hence there is not much danger of contracting the disease on the street, but in a close room the germs accumulate. Then, too, they may be brought in from the street on the soles of the shoes. For this reason babies should not be allowed to play on the floor in public places, as they take the germs on their hands. Even in the home it is much better to have a blanket for the baby to sit on when playing on the floor. If germs are tracked in from the street they are distributed about the room when the floor is swept energetically with a broom. For this reason, a vacuum cleaner,

or at least a broom moistened with some antiseptic solution, is better to use than a dry broom. In dusting, the cloth should be damp or moistened with oil. A feather duster is an abomination and a distributor of disease germs.

In olden times it was thought that tuberculosis was an incurable disease. Its existence was not discovered until the patient was in an advanced stage, and then the custom was to shut him in a closed room to which no sunlight and little air were admitted. Especially at night, there was not a particle of fresh air allowed to penetrate the room, for the "night air" was considered deadly. Naturally under such treatment the patient continued to grow worse until finally he succumbed. Then it was not considered necessary to disinfect the room, hence the germs were allowed to remain to inflict some future occupant.

The fact is now well established that if taken in time the majority of cases of tuberculosis are curable. But a cure requires time, a determined will and constant supervision. Tuberculosis cannot be *cured by drugs or medicine nor by any easy route.* The most successful treatment has been found to be the OPEN AIR CURE, the essentials of which are

fresh air night and day, summer and winter, plenty of good nourishing food, rest, a disposition to cease worrying and a determination to get well. All this is much more readily accomplished if the patient places himself under the supervision of a competent physician who will direct the details of his daily living.

The prevalence of this dread disease has led to the formation of a great many "get-rich-quick" companies who achieve fortunes from the gullibility of the unfortunate. The poor man (or woman) who thinks he has this disease seems to be a ready victim to the wiles of the unscrupulous. Every day we may read advertisements of "consumption cures" which are absolute fakes. Often the sufferer is beguiled into sending his last dollar for a bottle of medicine which is worse than useless. The majority of the so-called cures contain a large percentage of alcohol which gives the patient a temporary stimulation, but leaves him worse off than before. There absolutely is *no medicine which cures consumption* and the man who buys the most lauded "cure" might better throw his money into the fire. This does not mean that no consumptive should take any medicine, for often it is necessary

for the patient to be given a tonic or a remedy for some accompanying disorder, but this remedy should be prescribed for the individual to meet his special requirements. What would be beneficial to one might be poison to another.

Outdoor life is the chief essential. Change of climate is beneficial in many cases if the patient can have the best of care under the new conditions and be surrounded by friends so as not to be lonesome. But to send a patient off to the mountains with barely enough to keep a well man alive, is murder; the patient simply is sent to die among strangers. So well known has this fact become that the citizens' committee from one western state recently sent out circulars to physicians requesting them not to send any more tubercular patients there unless they have sufficient means to live in comfort. These residents have seen the hopeless misery and loneliness of those who have been sent to die among strangers. There is no miracle in the mountain air, and unless a person has sufficient means to purchase the comforts and some luxuries of life, he is better off at home among friends.

The patient at home can be taken care of with little expense. Arrangements should be made so

that he can be out of doors at all hours, either on a porch or in a shack. He may, indeed, sleep in a warm room if his head is out of doors by means of a window tent. If he has any rise of temperature (fever) he should rest absolutely, even having his meals brought to him. This means mental rest, as well as physical, so he should not be consulted regarding business or the affairs of the house. The mind should be at ease as well as the body.

At least six meals a day should be provided. Besides the regular three nourishing meals, he should be given egg nog or similar diet at about ten in the morning, three and eight in the afternoon. He should sleep from eight to ten hours at night, and also will be benefited by a nap or two in the daytime.

Sanitarium treatment is excellent for those who can afford it, for here are the facilities for carrying out the routine of treatment exactly as prescribed. Every patient is under constant medical supervision and his diet, exercise and other treatment are varied to meet any changes. One disadvantage with treatment at home is the inclination to neglect some of the seemingly minor regulations, but in a sanitarium it is the entire business of the nurses and physicians to see that every detail is attended to. Then,

too, in the home it is hard for the patient not to kiss or fondle other members of the family and so expose them to the disease.

The routine treatment that is advised for the tubercular patient is beneficial in many other conditions of ill health. When an individual is run down or exhausted nervously, this treatment will be excellent. The under-developed or nervous child will be greatly benefited by the same treatment, especially the out-of-door sleeping and the extra diet between meals.

One preventive of consumption is to keep the entire body and especially the air passages in a healthy condition. Do not neglect colds and coughs, no matter how slight they may be. A child with adenoids is liable to contract tuberculosis, for there is an interference with the free entrance of fresh air into the lungs. In the same way, enlarged tonsils may predispose to the disease. Slightly enlarged tonsils often can be reduced by treatment, but those which are much enlarged are better removed. A child with enlarged tonsils is much more prone to sore throat and colds, and these may be a precursor of tuberculosis. The teeth never should be neg-

lected, for a cavity in a tooth often is a resting place for germs of tuberculosis and other diseases which later find their way to other parts of the body.

CHAPTER XX

ACCIDENTS AND EMERGENCIES

In all accidents or emergencies the first essential is to keep cool, to decide what is best to be done and not waste time by aimless movements.

If the accident is at all serious a physician should be summoned at once. Unless a telephone is handy it is best to send a written note, for frequently when a child carries the message he becomes so excited that he is unable to give the physician any definite information. In some cases he even is unable to tell the address. All that is necessary to be written is the name and address of the patient with a few words telling the nature of the accident.

The next consideration is to place the patient in as quiet and comfortable a position as possible and to keep the by-standers at a distance. Unless the head is injured, place it on the same level as the remainder of the body. Loosen the collar and belt, stop all bleeding as quickly as possible. If the patient vomits, turn his head to one side.

Hemorrhage. Hemorrhage from any portion calls for absolute rest and elevation of the parts with the addition of ligatures or ice when possible. If of the *lungs,* the patient should be propped in a semi-sitting position so that he will not become choked with the blood. Ice should be applied to the chest. If from the *nose,* the patient should stand or sit. Ice applied to the back of the neck often will help. If very severe, it may be necessary to pack the nostril. Hemorrhage of an *arm* or *leg* can be controlled by a tight ligature. A large handkerchief tied tightly around the arm above the cut will stop an arterial hemorrhage. Keep the patient quiet in a reclining position.

Cuts and Bruises. Cuts and bruises are daily occurrences among children as well as their elders. Children will go barefooted and cut their feet on pieces of glass. Men will sustain injuries while working in shops and factories. Many times a small cut will give much more serious results than a larger injury because of the fact that it is neglected. A large injury usually is dressed and treated by a surgeon who understands his business but a small cut frequently is wrapped tightly to stop the bleeding and then neglected.

The great danger of cuts is that they are liable to become infected, that is, some disease germs get into the wound and produce trouble. The parts become red and swollen and filled with pus. Sometimes the germs work their way along the lymph channels and may travel several feet. Such a condition ordinarily is called blood poisoning, although a physician would say that the wound had become infected. If the wound is on the hand, faint red lines may be seen running up the arm and the glands of the elbow and axilla may become enlarged so that they feel like little kernels. This shows that the germs are traveling and prompt measures are necessary. When such a condition occurs, it is necessary to allow an opening for the escape of the pus. If the original wound has closed up it must be reopened. Then a hot, wet dressing must be applied. Gauze should be wrung out of hot boric acid solution and wrapped around the injured parts. This should be covered with oiled paper to keep the heat and moisture in. A layer of cotton held in place by a bandage will aid in keeping the parts warm. The gauze must be kept warm and moist by changing it frequently or by pouring some more solution on to it. A small opening may be made through

the bandage, cotton and oiled paper and a tablespoonful of the boric acid solution be poured on to the gauze every half hour or even more often. The solution should be as hot as can be borne.

When a cut first occurs it usually can be kept from becoming infected by first cleansing it thoroughly with water that has been boiled, then wrapping it in a piece of sterile gauze or clean white cloth. A few drops of carbolic acid may be added to the water. Boric acid powder may be dusted on the wound, but salves or ointments never should be applied as they tend to seal the wound and keep in any germs that may have gained entrance. Bruises usually require no treatment except rest, but if there has been a tiny break in the skin, they may become infected and must be treated the same as an infected cut. If any wound, no matter how small, becomes red, swollen and painful, no time should be lost until treatment is applied. Arms and even lives have been lost as the result of neglecting a very small cut on the finger.

Burns and Scalds. Often we read in the daily papers an instance of some little baby becoming badly burned or scalded by falling against a hot stove or into a pan of water. In a number of in-

stances, serious results might have been averted by prompt attention.

Many mothers become panic stricken whenever an accident occurs and do the worst thing possible. For instance, if the baby's clothing has caught fire, many a frightened mother runs to the neighbors, while every second the baby is becoming more burned. The better way would have been for her to grab the nearest heavy cloth, a coat, a heavy skirt, a portière, even a rug, anything she can find in which to wrap the baby quickly. Fire cannot burn without air, so if the air can be kept from the fire it will go out immediately. Throwing water on burning clothing often only spreads the fire more. Smothering it with a blanket or clothing is the best means of quenching it.

Then as soon as the fire is out, not a moment should be lost until a remedy is applied. In a case of a burn the remedy should be of such a nature that it will keep out the air and, also, allay the intolerable burning. One of the best remedies is Carron oil. In every home where there are children, there should be an emergency remedy chest in some convenient location. In this chest should be a bottle of lime water and another of raw linseed

oil. Equal parts of these two make what is known as Carron oil. This always should be mixed fresh as needed. Pieces of soft cloth, or better still, a package of sterile gauze also should be in the emergency chest. Strips of the gauze should be saturated with the Carron oil and applied to the burned places immediately. They may be held in place by bandages, but first all the burned surfaces should be covered.

In the absence of Carron oil, lard and baking soda form a good preparation. In the absence of any remedies, immerse the burned portions in water until a remedy can be procured. The water keeps the air from reaching the burn and is preferable to something that will cling to the raw surface, as flour and water.

The dressings should be renewed once a day. The old dressing should be removed carefully and, if it sticks in places, should be soaked off with a little warm water.

If the burn is at all extensive, the doctor should be called at once as some complications may result. In extensive burns the kidneys are liable to become affected and these must be watched carefully. The urine should be measured daily.

The child should be kept as quiet as possible. It may be necessary for the physician to give some medicine that will dull the pain. This is much better than to have a child suffer so severely that it cannot rest and is tearing off the dressings continually. After a few days, the pain will be lessened and the medicine should not be continued.

Foreign Bodies in the Eye. Foreign bodies, such as particles of dust, bits of steel and emery, frequently get into the eyes. On a windy day dust from the street is liable to blow into the eyes and at once set up an irritation. The natural tendency is to rub the eye and this only adds fuel to the fire and causes more irritation. If the foreign body happens to be a bit of steel or other sharp substance, the rubbing may cause it to become imbedded in the conjunctiva.

In many cases if the eye is left alone for a few minutes the irritating material will be washed out by the flow of tears which its presence causes. If not washed out by the tears, it usually may be found under the upper eyelid and its removal is not a difficult task for one who has had some practice.

The patient should be directed to look downward, then the upper eyelid should be everted. This can

be done by pressing a match or small pencil against the lid and then, catching hold of the eyelashes, rolling the edge of the lid back. Usually this will bring the foreign body into view and it can be removed by touching it with a bit of cotton or the corner of a clean handkerchief.

In a few cases the foreign body lodges under the lower lid. From this position it can be removed readily by causing the patient to look upward and then everting the lower lid. After the body has been removed, there may be some pain for some time if much irritation has been set up. Rubbing the eye only increases the inflammation. A few drops of a solution of boric acid dropped into the eye will be found soothing. If the irritation is extensive, a cloth wrung out of hot water may be laid over the eyes to relieve the pain.

In some cases in which steel has become imbedded in the conjunctiva it may be removed by holding a small magnet near it. In other cases it may be so firmly imbedded that it will be necessary to have a surgeon remove it.

Good eyesight is so essential to comfort and success that one never should neglect the eyes. Pain and redness are signs of irritation. If not due to

a foreign body that can be removed, a physician should be consulted and the cause removed. The irritation may be due to disease germs which have entered the eye. One kind is so virulent that it can destroy the eyesight in a few days.

Sprains, Dislocations and Fractures. A fracture is a broken bone. The limb should be placed in as comfortable a position as possible. Ice or cold cloths applied over the injured parts will relieve the pain and prevent early swelling which so often prevents the immediate setting of the bone.

In a *Dislocation* the bones are pulled out of place. The first treatment is the same as for fracture.

In a *Sprain* the muscles are torn and strained. Rest is essential. Either hot or cold applications may relieve the pain. Tight bandaging prevents muscular movement and so prevents pain and aids in repair.

Drowning. When a person has been rescued from drowning, the first considerations are to empty the lungs of any water and then to maintain respiration by artificial means if necessary. For the former, the patient may be turned face downward over a barrel, the mouth being kept open and free from fluid. All clothing should be loosened about

the neck and waist and the neck and chest bared to the breeze except in severe weather. If the patient has not swallowed any considerable quantity of water, he should be laid on his back with the shoulders elevated so that the head hangs downward. The tongue should be brought forward by means of a forceps if necessary. Artificial respiration should be performed. One method of doing this is to fold the patient's arms over his stomach, then raise them over the head to a perpendicular position. Draw them straight, then forward to a folding position again, at the same time pressing the arms against the sides of the chest. This procedure produces a bellows-like movement and should be done about fifteen times a minute.

Smelling salts or aromatic spirits of ammonia may be held near the nostrils. On signs of life returning, the patient should be wrapped in a warm blanket and a few drops of brandy may be given. Artificial respiration should be kept up for three hours if necessary, for persons have been restored to life after that length of time. It is best for several persons to take turns with the work, so that it may be kept up continuously.

Electric Shocks are treated in a similar manner

by artificial respiration. In these cases also one should not stop efforts too soon.

Suffocation, as from inhaling gas or by smothering, also is treated by artificial respiration. In many cases a mustard plaster over the heart will be beneficial.

Unconsciousness may result from many causes and it often is difficult for an inexperienced person to distinguish between the different varieties.

Fainting is one of the most common forms of unconsciousness. In this case there is a lack of blood in the brain, therefore the patient should be placed with the head low so that the blood will flow toward the head. All clothing should be loosened at neck and waist. Fanning the patient or holding a bottle of aromatic spirits of ammonia near the nose will aid in restoring consciousness. The patient needs all the fresh air possible; hence bystanders should be kept at a distance so as not to interfere with the free circulation of air.

Apoplexy or Stroke. The patient usually is found with the face flushed (which is an opposite condition to that in fainting). The arm and leg on one side usually are helpless and devoid of sensation. In many cases the pupils are of unequal

size. In this case, there has been a hemorrhage of one of the blood vessels of the brain and it is desirable to have the blood flow away from the brain. The patient should be placed with his head raised slightly. Stimulants must not be given. Rest and quiet are absolute necessities. The patient should be wrapped in blankets and cold cloths should be applied to the head.

Alcoholism so frequently is confused with apoplexy that many a person with apoplexy has been taken to the police station and treated wrongfully. In alcoholism the breath smells strongly of alcohol, the pupils of the eyes are of equal size and the pulse is strong and full. In this case also the patient may be wrapped in blankets with a cold cloth to the head. An emetic may be given.

Poisoning by Opium or Morphine. In this case the patient becomes drowsy, hard to arouse, the pupils are contracted to pin point size, the respirations become very slow. Activity is necessary in this case. Keep the patient walking around, give him hot black coffee and, if necessary, dash cold water into his face.

Heat Exhaustion and Sunstroke are two opposite conditions that may result from practically the same

cause. However, sunstroke usually results from prolonged exposure to the sun's rays and heat exhaustion follows a continued remaining in a warm, close room. Heat exhaustion may occur in the winter time as well as in the summer. It frequently occurs among stokers for the furnaces.

Following sunstroke the patient's temperature is high, often as high as 106° or 111° F. The face is flushed, the breathing deep and labored, and the patient unconscious. In heat exhaustion, the symptoms may be almost the opposite and resemble those of shock. The temperature is subnormal, the feet and hands cold, the pulse weak and rapid, while the patient may or may not be unconscious.

In sunstroke, the treatment consists in the application of ice to the head, followed by a cold bath. If possible a tub bath should be given; otherwise the patient may be laid on the ground and cool water poured over him. Care must be taken that the head is kept wet and cold all the time, otherwise, with the pouring of water on other parts of the body, the blood would rush to the head.

In heat exhaustion, the patient should be laid flat on the bed or floor in a darkened room if possible. A cold cloth should be applied to the head and heat

to the feet. Stimulants should be given, such as strong coffee or brandy. A hot bath may be given, but quiet and stimulation are the essentials.

During the very hottest days of the summer, everyone should take precautions to avoid these disastrous conditions. Keep out of the sun, if possible, otherwise, wear a light weight hat. If obliged to work in a warm room, have as much ventilation as possible, then keep a cold wet cloth on the head. Those who are obliged to be out in the sun should keep a wet cloth on their heads under the hat.

Whenever it is possible, it is better to arise a little earlier in the morning and accomplish the day's work during the cooler morning hours, then rest during the hottest part of the day. Do not try to do any more work than is necessary. Leave the extra work until the days become a little cooler.

Eat very little during the middle of the day and yet do not fast, for one who is faint from lack of food will be a more ready victim of the heat. Learn a lesson from the deaths recorded every hot day and avoid unnecessary exposure. Stay at home in the shade. Do not go bargain hunting when the thermometer is striving to reach a hundred.

All the bargains in the world are not worth the risk to life.

Poison Ivy. During the summer and fall months when people love to roam the woods, to get close to Mother Nature, one of their worst enemies is poison ivy or poison oak. The two plants vary considerably in appearance but are similar in effects and in their poisonous propensities. The latter is a short stocky plant while the former is a climbing shrub whose stem often rises to a great height upon trees, rocks and other objects to which it adheres by strong rooting fibers. The leaves of the poison ivy usually are divided into three leaflets each about four inches long. The leaves are pointed and coarsely notched along the edge while the surface is more or less downy. In some instances the leaves are five lobed, so the plant is more liable to be confused with other varieties of ivy.

The leaves contain an oil which is very irritating and poisonous to the skin. There are a few persons who are immune to the effect of this poison and can handle the leaves or chew them with no bad effects, but these people are rare. The majority are easily affected by contact with the leaves. It is claimed by some that they become poisoned by

being in the vicinity of the vine without actually touching it. It is probable that these people really did come in contact with some leaf, although it is possible that the poisonous matter could be carried by dust that had first settled on the poisonous leaves and then been blown to the person's skin.

The effect of the poison is to produce an eruption of the skin which resembles eczema or even erysipelas. Minute vesicles appear and the parts become red and swollen. There is considerable itching and burning. In some cases there are systemic effects, as abdominal pain, nausea and vomiting. The eruption may appear in a few hours after contact with the plant or not until after a lapse of several days. The face and hands are the parts usually affected first, probably because they are more liable to contact with the leaves. The poison may spread to other parts of the body by contact. A person with his hands affected is liable to carry the poison to his eyes or any part of the body.

The treatment is first to get rid of the poison clinging to the parts. As the poison is contained in an oil, water will not wash it off. The parts should be bathed with alcohol or with an alkaline solution, as ammonia water. After bathing, some soothing

lotion should be applied, as a boric acid solution or a weak solution of carbolic acid. Lead water is one of the best known remedies. Ointments and oily applications should not be used, as they tend to dissolve the poison and will spread it to other parts of the body. The eruption and other symptoms usually disappear within ten days with no bad after effects.

Poison ivy sometimes is used as a drug and is very useful in indicated conditions in small doses.

Ptomaine Poisoning. During recent years we have heard a great deal about poisoning by food. Probably there were many cases in the past that were not recognized. However, the increased use of canned food, especially meats, no doubt has increased the amount of illness of this nature.

Canned meat that has been opened long always should be regarded with suspicion. When a can of meat is opened it should be emptied *immediately* into an earthen vessel. It should not be left even for a few minutes in a tin container.

Many too economical housewives have poisoned their families by their would-be-saving methods. Meat is kept from day to day, served perhaps in different styles as recommended by the

teachers of domestic science. Perhaps the last day it is served it has become tainted, but the housekeeper, not realizing the danger, thinks it will be all right if well seasoned. In warm weather it is better to buy only enough meat for the day even though one does have a good ice box. There is too much risk in keeping meat to be warmed over for several days, as even prolonged cooking fails to destroy the toxic action of certain ptomaines (poisons) in infected meats.

The symptoms of meat poisoning usually are excruciating pain in the abdomen, frequently accompanied by nausea and vomiting. There may be considerable rise in temperature. These symptoms often are followed by great prostration, sometimes by collapse and death. In other cases the symptoms resemble those of typhoid fever.

As soon as the symptoms develop a physician should be called, as the death rate is about thirty per cent. Prompt action gives a much greater chance of recovery. If there is any delay in obtaining the physician, some measures may be employed in the meantime. The stomach may be washed out by drinking several glasses of water and then producing vomiting. Warm mustard

water is excellent, as besides producing vomiting, it acts as a stimulant. A dose of salts, together with an enema (injection into the bowels), will help to rid the intestines of the poison. Hot, clear tea also has a beneficial effect and usually is borne well by the stomach.

The patient, although recovering from the attack, may feel the results in the form of digestive troubles for several months.

CHAPTER XXI

MINOR DISORDERS AND DISORDERS OF GROWTH

BACK-ACHE. Of all annoying afflictions back-ache seems to be one of the most common, especially with those who have passed the first flush of youth. The common idea that all back-aches are due to the kidneys is very misleading. Many of the advertisements of "kidney pills" which are displayed so prominently would lead the reader to believe that all back-aches have their source in some disorder of the kidneys. The "crick" in the back is taken as an indication of need of some kidney remedy, so the sufferer rushes to the nearest drug store and buys a package of pills and perhaps a plaster. If within a few days the back-ache is better he becomes a devotee to the remedy which may not have had anything to do with his recovery. Many a person has a back-ache who has perfectly normal kidneys.

Probably more back-aches are due to lumbago than to any other cause. This is an affection of the

voluntary muscles in the lumbar region characterized by pain, tenderness and rigidity. Pain is the chief symptom. It is made worse by use of the muscles and is associated with tenderness. Sometimes the muscles are contracted and rigid. There is a dull aching pain across the loins. Turning the body or rising from the sitting posture causes an exacerbation which sometimes is so severe that the patient cries out.

The cause usually is exposure to cold and wet or muscular strain. People who are predisposed to rheumatism are especially inclined to be the sufferers.

The treatment consists chiefly in rest and the application of counter-irritants. The muscles may be put to rest by strapping with strips of adhesive plaster. The chief benefit derived from most of the plasters sold for this purpose is that they hold the muscles at rest so that when the body is moved there is no strain of the affected muscles. The application of heat, or of a mustard plaster affords considerable relief in many cases. True oil of wintergreen (not the synthetic which often is substituted) well rubbed in is an excellent remedy.

Back-ache may be due to many other causes, and

if one is not certain as to the cause it is well to go to a physician and have a thorough examination which will reveal the cause. It may be due to chronic constipation, to eye strain or to some other strain on the nerves. In women it frequently is due to a displacement of some organ or to an inflammation, either of which conditions need to be corrected. Girls who are compelled to be on their feet several hours at a time are subject to back-ache which should not be neglected.

Temporary Deafness. Many people complain that their hearing gradually is growing less acute, perhaps is almost entirely lost in one ear. One case was particularly noticeable in a young man who was unable to hear ordinary conversation and so was deprived of much of the pleasure of life. On examination it was found that his ear contained a large amount of hardened wax. When this was removed his hearing was restored.

This condition is very common and not limited entirely to the uncleanly. Some people who are scrupulously clean in their personal habits have this hardened wax. The original cause probably was a slight inflammation of the ear during the course of a cold. This might have been so slight as to

pass unnoticed, but, as a result of this inflammation, the wax stuck to the drum of the ear and to the surrounding tissues and gradually increased in amount. As hearing is produced by the sound waves striking the drum of the ear, the patient would become partially deaf because the sound waves could not reach the drum. In some cases the wax becomes partially loosened and then the patient will complain of a buzzing or roaring in the ear which is due to the waves of sound being compressed behind the wax.

The remedy for this condition, naturally, is to remove the wax. However, this sometimes requires considerable time and patience in order not to injure the delicate drum. First the wax must be softened by the application of an oily spray. It may be necessary to apply this several times a day for two or three days. Then it may be that the wax can be washed out with warm water. To do this, a fountain syringe is filled with warm water and hung about a foot above the level of the ear. A medicine dropper makes a very good point to be used instead of any of the ordinary syringe points, as it allows only a small stream of water to flow. The water should be allowed to flow very slowly into the ear.

If much force is used the operation would be very painful.

In some cases it is necessary to dig the wax out with a fine instrument. The patient should not attempt to do this himself as there is great danger of puncturing the ear-drum and causing permanent deafness. It is necessary to have a good light so that the canal is clearly visible. The majority of physicians have a very strong light which can be reflected into the ear.

Good hearing is so necessary, not only to the enjoyment of life, but in the attainment of success in work that it seems strange that anyone would neglect a gradually increasing deafness. Yet there are hundreds of people who go for years with impaired hearing which might be relieved by very simple measures.

Bunions. A bunion is one of the most painful of minor affections. It is defined as a swelling of the bursa mucosa at the ball of the great toe. Every joint is protected by one or more sacs of fluid called bursa. The bursa lying between the skin and the head of the bone at this joint is exposed to pressure from the shoe and often becomes inflamed.

This inflammation is called a bunion, although the same condition may be present at other joints.

If people never wore shoes they never would have bunions. If they wore shoes suited to the shape of their feet the same absence of discomfort would be noted. Feet vary as much in size and shape as do other parts of the body, yet people with different shaped feet try to wear the same shaped shoes. Pointed toed shoes are responsible for nearly all the bunions. The natural foot does not converge to a point, yet, when it is encased in certain shoes, that becomes its appearance. The foot is drawn out of shape, is deformed to fit the prevailing style of foot wear as truly as the foot of any Chinese lady was deformed. There really is not much difference between encasing the foot in bandages or in tight shoes.

If one will draw the toes of his bare foot together to try to form a point he will notice that the last joint of the great toe is thrown outward. If a shoe is worn that holds the foot in this position the joint receives considerable pressure from the shoe which results in inflammation.

Understanding the cause it is not a hard matter to decide upon the treatment of a bunion. First,

procure a pair of shoes that do not squeeze the toes together. The inner side of the sole of a shoe should be nearly straight, not slanting towards the middle at the toe. The "mannish" cut of shoes usually has this shape sole, and they can be procured in all weights of leather. The next thing is to relieve the pressure on the sore joint and also try to replace the great toe in its original position. The latter can be aided by placing a piece of cotton between the great toe and the second toe. This tends to throw the big toe back into a straight line with the foot and the joint to resume its proper position. To relieve the pressure, a small piece of cotton with a hole cut in the center laid directly over the bunion should be worn during the day. If the bunion has not existed a great length of time nor become complicated this treatment will be all that is necessary. However, in some cases the bursa has become infected and pus has formed. Then it may be necessary to remove the bursa. In extreme cases the infection has extended to the joint cavity and the end of the bone has become necrosed (dead). In this case it will be necessary to remove a portion of the bone before the bunion can be relieved.

The Child With Rickets. In some of the poorer

localities, especially of the large cities, it is not uncommon to see a small child whose head not only appears too large for his body but seems to be square in outline. A further examination usually reveals bow legs or knock-knees, while the long bones of the arms also may be bent. The ends of the bones frequently appear to be clubbed. If the chest is examined the sides appear to be flattened, while the sternum or breast bone is very prominent. Nodules, which are called the "rachitic rosary," may be felt where the ribs join the sternum.

Such a child presents a typical picture of rickets or rachitis. This is a disease characterized by defective nutrition of the bony tissues. The most marked changes appear in the ribs and long bones although the condition is general. The condition seldom is seen at birth but develops during the first or second year. If it commences early, the mother notices that the "soft spot" on the top of the baby's head does not close as soon as it should.

This condition is due to lack of proper food and bad hygienic surroundings. For this reason it most frequently is seen among the poverty stricken who usually do not even have sufficient fresh air.

At birth, the framework of the baby's body is

composed partly of cartilage or gristle. If the breastbone of a young chicken is examined, it will be found that the lower portion is not bone but gristle. As the chicken grows older the gristle is replaced by bony substance. The same is true of the bones of a baby. As the child grows, lime salts are deposited in the tissues and bony substance takes the place of the gristle. In order for this to take place, the baby must have sufficient bone forming food. The mother who nurses her baby can regulate the amount of bone forming material in the milk by attention to her own diet, but the baby brought up on a bottle must also have this matter attended to. The mothers in the poorer localities, even though they do nurse their babies, frequently do not have enough nourishing food to make good milk for the babies. The poor bottle fed babies fare even worse. One who has not visited the poorer districts, cannot conceive of the condition of the babies there and cannot realize their need of proper food.

While the bones are soft, they are easily bent out of shape so that bow legs and other deformities are frequent in these localities.

The child with rickets needs to be placed in the

fresh air and fed nourishing food. Under such treatment, the bones gradually become stronger and some of the deformities may disappear. However, if the condition has remained so long that the bones are badly out of shape, the only results will be a prevention of further deformity.

Adenoids. Of recent years we hear so much of adenoids. It does not seem that we ever used to hear of them. They are like appendicitis,— an old disease with a new name. People used to have appendicitis, and die of it, but it was called inflammation of the bowels or some similar name.

Children used to have adenoids in the good old days just the same as they do now, but they were not recognized then and the troubles which they caused were allowed to continue. We used to hear a great deal about "catarrh" and bought all kinds of patent medicines for it. The majority of these contained cocaine or some other dangerous drug, the use of which soon created a habit. Many were the troubles laid to "catarrh." It was a sort of scape-goat for all the diseases. Mothers met and discussed the difficulties attributed to it.

All this is changed now. We know something about this "catarrh" which causes children to hold

their mouths open as they are unable to breathe through their noses. We know that the children that have sore throats all the time, that are backward in their studies, have a reason for being so. Now we do not buy the harmful drugs that only allay the symptoms while doing more harm than good. We have the child examined to see if it has adenoids.

Adenoids are little growths in the passage from the nose to the throat. These growths resemble small bunches of grapes. When they fill the air passages the air cannot reach the lungs properly. As a result, the lungs do not receive enough oxygen, the blood does not contain enough coloring matter, the child becomes pale and tired. Such a child is less able to resist disease so is constantly subject to sore throat and colds, as well as being more liable to contract the more serious diseases. Besides this, the brain is poorly nourished and the child becomes stupid and dull. He falls behind his classes in school and is not able to grasp the lessons assigned to him. Finally his face becomes drawn and dull looking. Then, too, breathing through the mouth causes the face to become deformed, the palate is arched and the teeth do not have their proper con-

tour. The protruding or squirrel teeth of many children are due to adenoids or enlarged tonsils.

The only remedy for this condition is the removal of the little growths that are causing all the trouble. If something were plugging up the water main in a town, it would not take long for the engineer to decide to remove the obstruction. It is just as reasonable to remove the obstruction that is plugging up the air passages in the child's body.

The change resulting sometimes is surprising. The child begins to take an interest in the things around him, he improves in his lessons, the colds and sore throat are things of the past, the child begins to take on flesh and has color in his cheeks. He is becoming a normal child!

Hernia. A rupture or hernia is so common with babies, especially boy babies, that it is surprising that so few mothers really understand the condition.

Try to imagine a person with a bag of coiled tubing. The bag is double, consisting of a lining and an outer covering. Someway a tear or rip has appeared in the lining. This allows the tubing to come out between the lining and the outside, making an irregular lump. That is just the condition with a rupture or hernia. The intestines or bowels have

come out between the lining muscles and the skin through a little tear or opening in the muscles, This opening commonly is the inguinal canal through which the spermatic cord passes.

A good housekeeper would sew up the rip or tear in the lining of the bag without any question. That is what a surgeon does when he operates for hernia. He sews up the tear in the muscles so the intestines cannot come down.

If the baby is very young, an operation may not be necessary, for there is a chance that the muscles will grow together again if the intestines are held in place for awhile. A truss is a contrivance for holding these in place. It does not in itself cure the trouble. We see many advertisements saying, "Rupture cured without a knife." These are fakes! The most common treatment these advertisers use is to inject a little paraffin or wax under the skin to plug up the tear as a cork would stopper a bottle. This may keep the intestines up for a time and the patient thinks he is cured. However, it is very common for this wax to become displaced a little and an examination will reveal that the tear has become larger than ever. These cases usually have to be operated upon eventually.

If the hernia is not repaired, there is danger of what is known as a strangulated hernia, that is, the intestine comes down between the muscles and becomes caught so that it cannot go back into place. This is a very serious condition, for the blood supply usually is cut off and the intestine will become gangrenous (dead). This may result in death of the patient within a few hours. If a rupture ever becomes caught in this way, there is no time to be lost until the abdomen is opened by a surgeon and the intestine is released.

Rupture may be congenital, that is, present at birth, or it may be caused by heavy lifting or straining. For this reason, a small child should not be allowed to strain himself by trying to lift a heavy object. Some children are inclined to attempt tasks too great for their strength and must be restrained. Violent crying and straining at stool may produce a rupture if there is a weak spot in the muscles. This is one reason a baby should wear a band around the navel for the first few weeks after birth.

The Child With Bow-Legs. Summer is the season of the year when the treatment of bow-legs can be made enjoyable to the patient.

Bow-legs are caused by allowing the baby to walk

or stand before the little legs are strong enough to bear the weight of the body. During babyhood, the bones of the legs are soft and bend easily, just as a young tree can be bent in any direction.

When baby first is learning to walk, great care should be exercised that he does not remain on his feet too long at a time. If left by himself he will sit down frequently and creep about. A baby should not be urged to walk too young. When his muscles are strong enough he will discover that he can walk just as he discovered that he could creep. He should not be allowed to walk until he is too tired. When he goes outdoors for exercise and fresh air he should ride in the carriage part of the time so as to rest the little legs.

The baby-walkers advertised in many magazines never should have been invented as they are liable to help cause bow-legs or knock-knees. If a baby is placed in one of these walkers, he is unable to sit or lie down no matter how tired he may be. As he is unable to talk, he may suffer considerably before released from his prison.

As a rule, the parents do not notice that the baby is becoming bow-legged until he is three or four years of age, then they are anxious to have the legs

straightened. This is a tedious process, but if the parents are persistent, much benefit can be derived. If the child is old enough, he should be provided with a velocipede large enough so that he will have to stretch his legs a little to reach the pedals. This will relieve the weight from the legs and the constant stretching will tend to straighten them.

Massaging the legs every night and morning with olive oil or alcohol and gently trying to straighten them a little will make a gradual improvement. It will be necessary to continue this for several months to obtain any results. In extreme cases, braces may be necessary, but these should not be used if they can be avoided.

The best form of treatment is prevention. The growing baby should be given bone forming food. The prevalence of bow-legs in the poverty stricken districts among the poorly nourished children is a proof of the part that lack of proper nourishment has in causing this condition. The desire of parents to have their child walk at too early an age is the next great factor in the prevalence of this preventable and unsightly deformity.

INDEX

INDEX

INDEX

INDEX

INDEX

INDEX

INDEX

INDEX

INDEX

INDEX

INDEX

PUBLISHERS' NOTE

THE reader will be interested in other books by Dr. Lowry described in the following pages:

Dr. Lowry is famous as the author of the only books on sex hygiene which have received the endorsement of the leading medical, educational and religious authorities, who declare they are the first books to meet the standards and requirements of the present great world-movement for sex education.

The books are written with scientific accuracy and with directness and unpretentious clearness.

There is nothing morbid or mawkish about Dr. Lowry's books — they lead to better health, to sex purity, and to a high practical morality.